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## 1.5 libjpeg 6b

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README for release 6b of 27-Mar-1998



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## DOCUMENTATION ROADMAP

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This file contains the following sections:

OVERVIEW        General description of JPEG and the IJG software.  
LEGAL ISSUES    Copyright, lack of warranty, terms of distribution.  
REFERENCES     Where to learn more about JPEG.  
ARCHIVE LOCATIONS Where to find newer versions of this software.  
RELATED SOFTWARE Other stuff you should get.  
FILE FORMAT WARS Software \*not\* to get.  
TO DO           Plans for future IJG releases.

Other documentation files in the distribution are:

User documentation:

install.doc    How to configure and install the IJG software.  
usage.doc      Usage instructions for cjpeg, djpeg, jpegtran,  
                 rdjpgcom, and wjjpgcom.  
\*.1            Unix-style man pages for programs (same info as usage.doc).  
wizard.doc     Advanced usage instructions for JPEG wizards only.  
change.log     Version-to-version change highlights.

Programmer and internal  
documentation:

libjpeg.doc    How to use the JPEG library in your own programs.  
example.c      Sample code for calling the JPEG library.  
structure.doc   Overview of the JPEG library's internal structure.  
filelist.doc   Road map of IJG files.

coderrules.doc Coding style rules --- please read if you contribute code.

Please read at least the files install.doc and usage.doc. Useful information can also be found in the JPEG FAQ (Frequently Asked Questions) article. See ARCHIVE LOCATIONS below to find out where to obtain the FAQ article.

If you want to understand how the JPEG code works, we suggest reading one or more of the REFERENCES, then looking at the documentation files (in roughly the order listed) before diving into the code.

## OVERVIEW

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This package contains C software to implement JPEG image compression and decompression. JPEG (pronounced "jay-peg") is a standardized compression method for full-color and gray-scale images.

JPEG is intended for compressing "real-world" scenes; line drawings, cartoons and other non-realistic images are not its strong suit. JPEG is lossy, meaning that the output image is not exactly identical to the input image. Hence you must not use JPEG if you have to have identical output bits. However, on typical photographic images, very good compression levels can be obtained with no visible change, and remarkably high compression levels are possible if you can tolerate a low-quality image. For more details, see the references, or just experiment with various compression settings.

This software implements JPEG baseline, extended-sequential, and progressive compression processes. Provision is made for supporting all variants of these processes, although some uncommon parameter settings aren't implemented yet. For legal reasons, we are not distributing code for the arithmetic-coding variants of JPEG; see LEGAL ISSUES. We have made no provision for supporting the hierarchical or lossless processes defined in the standard.

We provide a set of library routines for reading and writing JPEG image files, plus two sample applications "cjpeg" and "djpeg", which use the library to perform conversion between JPEG and some other popular image file formats. The library is intended to be reused in other applications.

In order to support file conversion and viewing software, we have included considerable functionality beyond the bare JPEG coding/decoding capability; for example, the color quantization modules are not strictly part of JPEG decoding, but they are essential for output to colormapped file formats or colormapped displays. These extra functions can be compiled out of the library if not required for a particular application. We have also included "jpegtran", a utility for lossless transcoding between different JPEG processes, and "rdjpgcom" and "wrjpgcom", two simple applications for

inserting and extracting textual comments  
in JFIF files.

The emphasis in designing this software has been on achieving portability and flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.

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The Unix configuration script "configure" was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (config.guess, config.sub, ltconfig, ltmain.sh). Another support script, install-sh, is copyright by M.I.T. but is also freely distributable.

It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has been removed altogether, and the GIF writer has been simplified to produce

"uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

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## REFERENCES

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We

highly recommend reading one or more of these references before trying to understand the innards of the JPEG software.

The best short technical introduction to the JPEG compression algorithm is Wallace, Gregory K. "The JPEG Still Picture Compression Standard", Communications of the ACM, April 1991 (vol. 34 no. 4), pp. 30-44. (Adjacent articles in that issue discuss MPEG motion picture compression, applications of JPEG, and related topics.) If you don't have the CACM issue handy, a PostScript file containing a revised version of Wallace's article is available at <ftp://ftp.uu.net/graphics/jpeg/wallace.ps.gz>. The file (actually a preprint for an article that appeared in IEEE Trans. Consumer Electronics) omits the sample images that appeared in CACM, but it includes corrections and some added material. Note: the Wallace article is copyright ACM and IEEE, and it may not be used for commercial purposes.

A somewhat less technical, more leisurely introduction to JPEG can be found in "The Data Compression Book" by Mark Nelson and Jean-loup Gailly, published by M&T Books (New York), 2nd ed. 1996, ISBN 1-55851-434-1. This book provides good explanations and example C code for a multitude of compression methods including JPEG. It is an excellent source if you are comfortable reading C code but don't know much about data compression in general. The book's JPEG sample code is far from industrial-strength, but when you are ready to look at a full implementation, you've got one here...

The best full description of JPEG is the textbook "JPEG Still Image Data Compression Standard" by William B. Pennebaker and Joan L. Mitchell, published by Van Nostrand Reinhold, 1993, ISBN 0-442-01272-1. Price US\$59.95, 638 pp. The book includes the complete text of the ISO JPEG standards (DIS 10918-1 and draft DIS 10918-2). This is by far the most complete exposition of JPEG in existence, and we highly recommend it.

The

JPEG standard itself is not available electronically; you must order a paper copy through ISO or ITU. (Unless you feel a need to own a certified official copy, we recommend buying the Pennebaker and Mitchell book instead; it's much cheaper and includes a great deal of useful explanatory material.) In the USA, copies of the standard may be ordered from ANSI Sales at (212) 642-4900, or from Global Engineering Documents at (800) 854-7179. (ANSI doesn't take credit card orders, but Global does.) It's not cheap: as of 1992, ANSI was charging \$95 for Part 1 and \$47 for Part 2, plus 7% shipping/handling. The standard is divided into two parts, Part 1 being the actual specification, while Part 2 covers compliance testing methods. Part 1 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 1: Requirements and guidelines" and has document numbers ISO/IEC IS 10918-1, ITU-T T.81. Part 2 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 2: Compliance testing" and has document numbers ISO/IEC IS 10918-2, ITU-T T.83.

Some extensions to the original JPEG standard are defined in JPEG Part 3, a newer ISO standard numbered ISO/IEC IS 10918-3 and ITU-T T.84. IJG currently does not support any Part 3 extensions.

The JPEG standard does not specify all details of an interchangeable file format. For the omitted details we follow the "JFIF" conventions, revision 1.02. A copy of the JFIF spec is available from:

Literature Department  
C-Cube Microsystems, Inc.  
1778 McCarthy Blvd.  
Milpitas, CA 95035  
phone (408) 944-6300, fax (408) 944-6314

A PostScript version of this document is available by FTP at <ftp://ftp.uu.net/graphics/jpeg/jfif.ps.gz>. There is also a plain text version at <ftp://ftp.uu.net/graphics/jpeg/jfif.txt.gz>, but it is missing the figures.

The TIFF 6.0 file format specification can be obtained by FTP from <ftp://ftp.sgi.com/graphics/tiff/TIFF6.ps.gz>. The JPEG incorporation scheme

found in the TIFF 6.0 spec of 3-June-92 has a number of serious problems. IJG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6). Instead, we recommend the JPEG design proposed by TIFF Technical Note #2 (Compression tag 7). Copies of this Note can be obtained from <ftp://ftp.sgi.com> or from <ftp://ftp.uu.net/graphics/jpeg/>. It is expected that the next revision of the TIFF spec will replace the 6.0 JPEG design with the Note's design. Although IJG's own code does not support TIFF/JPEG, the free libtiff library uses our library to implement TIFF/JPEG per the Note. libtiff is available from <ftp://ftp.sgi.com/graphics/tiff/>.

## ARCHIVE LOCATIONS

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The "official" archive site for this software is ftp.uu.net (Internet address 192.48.96.9). The most recent released version can always be found there in directory graphics/jpeg. This particular version will be archived as ftp://ftp.uu.net/graphics/jpeg/jpegsrc.v6b.tar.gz. If you don't have direct Internet access, UUNET's archives are also available via UUCP; contact help@uunet.uu.net for information on retrieving files that way.

Numerous Internet sites maintain copies of the UUNET files. However, only ftp.uu.net is guaranteed to have the latest official version.

You can also obtain this software in DOS-compatible "zip" archive format from the SimTel archives (ftp://ftp.simtel.net/pub/simtelnet/msdos/graphics/), or on CompuServe in the Graphics Support forum (GO CIS:GRAPHSUP), library 12 "JPEG Tools". Again, these versions may sometimes lag behind the ftp.uu.net release.

The JPEG FAQ (Frequently Asked Questions) article is a useful source of general information about JPEG. It is updated constantly and therefore is not included in this distribution. The FAQ is posted every two weeks to Usenet newsgroups comp.graphics.misc, news.answers, and other groups. It is available on the World Wide Web at <http://www.faqs.org/faqs/jpeg-faq/> and other news.answers archive sites, including the official news.answers archive at rtfm.mit.edu: <ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/>. If you don't have Web or FTP access, send e-mail to mail-server@rtfm.mit.edu with body  
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## RELATED SOFTWARE

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Numerous viewing and image manipulation programs now support JPEG. (Quite a few of them use this library to do so.) The JPEG FAQ described above lists some of the more popular free and shareware viewers, and tells where to obtain them on Internet.

If you are on a Unix machine, we highly recommend Jef Poskanzer's free PBMPPLUS software, which provides many useful operations on PPM-format image files. In particular, it can convert PPM images to and from a wide range of other formats, thus making cjpeg/djpeg considerably more useful. The latest version is distributed by the NetPBM group, and is available from numerous sites,

notably <ftp://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM/>. Unfortunately PBMPLUS/NETPBM is not nearly as portable as the IJG software is; you are likely to have difficulty making it work on any non-Unix machine.

A different free JPEG implementation, written by the PVRG group at Stanford, is available from <ftp://havefun.stanford.edu/pub/jpeg/>. This program is designed for research and experimentation rather than production use; it is slower, harder to use, and less portable than the IJG code, but it is easier to read and modify. Also, the PVRG code supports lossless JPEG, which we do not. (On the other hand, it doesn't do progressive JPEG.)

## FILE FORMAT WARS

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Some JPEG programs produce files that are not compatible with our library. The root of the problem is that the ISO JPEG committee failed to specify a concrete file format. Some vendors "filled in the blanks" on their own, creating proprietary formats that no one else could read.

(For example, none of the early commercial JPEG implementations for the Macintosh were able to exchange compressed files.)

The file format we have adopted is called JFIF (see REFERENCES). This format has been agreed to by a number of major commercial JPEG vendors, and it has become the de facto standard. JFIF is a minimal or "low end" representation. We recommend the use of TIFF/JPEG (TIFF revision 6.0 as modified by TIFF Technical Note #2) for "high end" applications that need to record a lot of additional data about an image. TIFF/JPEG is fairly new and not yet widely supported, unfortunately.

The upcoming JPEG Part 3 standard defines a file format called SPIFF. SPIFF is interoperable with JFIF, in the sense that most JFIF decoders should be able to read the most common variant of SPIFF. SPIFF has some technical advantages over JFIF, but its major claim to fame is simply that it is an official standard rather than an informal one. At this point it is unclear whether

SPIFF will supersede JFIF or whether JFIF will remain the de-facto standard. IJG intends to support SPIFF once the standard is frozen, but we have not decided whether it should become our default output format or not. (In any case, our decoder will remain capable of reading JFIF indefinitely.)

Various proprietary file formats incorporating JPEG compression also exist. We have little or no sympathy for the existence of these formats. Indeed, one of the original reasons for developing this free software was to help force convergence on common, open format standards for JPEG files. Don't use a proprietary file format!



TO DO

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The major thrust for v7 will probably be improvement of visual quality. The current method for scaling the quantization tables is known not to be very good at low Q values. We also intend to investigate block boundary smoothing, "poor man's variable quantization", and other means of improving quality-vs-file-size performance without sacrificing compatibility.

In future versions, we are considering supporting some of the upcoming JPEG Part 3 extensions --- principally, variable quantization and the SPIFF file format.

As always, speeding things up is of great interest.

Please send bug reports, offers of help, etc. to [jpeg-info@uunet.uu.net](mailto:jpeg-info@uunet.uu.net).

## 1.6 dhcp 4.1.1

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## 1.11 cpio 2.11

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it  
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```
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## 1.13 coreutils 8.22

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Version 3, 29 June 2007

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## 1.15 atk 1.28.0

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# 1.16 xfsprogs 3.1.1

## 1.16.1 Available under license :

This package was debianized by Nathan Scott nathans@debian.org on Sun, 19 Nov 2000 07:37:09 -0500.

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# 1.20 rsyslog 7.4.7

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```

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```

```
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```

```
Ty Coon, President of Vice
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## 1.22 gir1.2-gdkpixbuf-2.0 2.16.0

## 1.23 libxcb 1.11

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\* `configure.ac`, `Makefile.am`: The original versions were derived from the ones in the XML Catalog Manager project, version 2.2.

Author: Julio Merino <jmmv@users.sourceforge.net>

\* `atf-c/ui.c`: The `format_paragraph` and `format_text` functions were derived from the ones in the Monotone project, revision 3a0982da308228d796df35f98d787c5cff2bb5b6.

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\* `atf-c++/detail/io.hpp`, `atf-c++/detail/io.cpp`, `atf-c++/detail/io_test.cpp`: These files were derived from the `file_handle`, `systembuf`, `pipe` and `pistream` classes and tests found in the Boost.Process library.

Author: Julio Merino <jmmv84@gmail.com>

\* `admin/check-style.sh`,  
`admin/check-style-common.awk`,  
`admin/check-style-cpp.awk`, `admin/check-style-shell.awk`: These files, except the first one, were first implemented in the Buildtool project. They were later adapted to be part of Boost.Process and, during that process, the shell script was created.

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-->

```
<!-- $Id$ -->
```

```
<!-- Generate ISC copyright comments from Docbook copyright metadata. -->
```

```
<xsl:stylesheet version="1.0"
```

```
xmlns:xsl="http://www.w3.org/1999/XSL/Transform"
```

```
xmlns:xi="http://www.w3.org/2001/XInclude"
```

```
xmlns:db="http://docbook.org/ns/docbook">
```

```
<xsl:template name="isc.copyright.format">
```

```
  <xsl:param name="text"/>
```

```
  <xsl:value-of select="$isc.copyright.leader"/>
```

```
  <xsl:value-of select="normalize-space(substring-before($text, '&#10;'))"/>
```

```
  <xsl:text>&#10;</xsl:text>
```

```
  <xsl:variable name="rest" select="substring-after($text, '&#10;')"/>
```

```
  <xsl:if test="translate($rest, '&#9;&#32;', '')">
```

```
    <xsl:call-template name="isc.copyright.format">
```

```
      <xsl:with-param
```

```
name="text" select="$rest"/>
```

```
    </xsl:call-template>
```

```
  </xsl:if>
```

```
</xsl:template>
```

```
<xsl:variable name="isc.copyright.text">
```

```
  <xsl:text>
```

```
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    License, v. 2.0. If a copy of the MPL was not distributed with this  
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```

```
  </xsl:text>
```

```
</xsl:variable>
```

```
<xsl:variable name="isc.copyright">
```

```
  <xsl:call-template name="isc.copyright.format">
```

```
    <xsl:with-param name="text">
```

```
      <xsl:for-each select="book/info/copyright | refentry/docinfo/copyright">
```

```
        <xsl:text>Copyright (C) </xsl:text>
```

```
        <xsl:call-template name="copyright.years">
```

```
          <xsl:with-param name="years" select="year"/>
```

```
        </xsl:call-template>
```

```
        <xsl:text> </xsl:text>
```

```
        <xsl:value-of select="holder"/>
```

```
          <xsl:value-of select="$isc.copyright.breakline"/>
```

```
        <xsl:text>&#10;</xsl:text>
```

```
      </xsl:for-each>
```

```
    <xsl:value-of select="$isc.copyright.text"/>
```

```
  </xsl:with-param>
```

```
</xsl:call-template>
</xsl:variable>
</xsl:stylesheet>
```

```
<!--
```

```
- Local variables:
- mode: sgml
- End:
```

```
-->
```

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## 1.31 rsync 3.0.6

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## 1.33 free-type 2.4.11

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builds/unix/pkg.m4

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#

include/freetype/internal/fthash.h

#

src/base/fthash.c

src/base/md5.c

src/base/md5.h

#

src/bdf/bdf.c

src/bdf/bdf.h

```
src/bdf/bdfdrivr.c
src/bdf/bdfdrivr.h
src/bdf/bdferror.h
src/bdf/bdflib.c
src/bdf/module.mk
src/bdf/README
src/bdf/rules.mk
#
src/pcf/module.mk
src/pcf/pcf.c
src/pcf/pcf.h
src/pcf/pcfdrivr.c
src/pcf/pcfdrivr.h
src/pcf/pcferror.h
src/pcf/pcfread.c
src/pcf/pcfread.h
src/pcf/pcfutil.c
src/pcf/pcfutil.h
src/pcf/README
src/pcf/rules.mk
#
src/gzip/adler32.c
src/gzip/infblock.c
src/gzip/infblock.h
src/gzip/infcodes.c
src/gzip/infcodes.h
src/gzip/inffixed.h
src/gzip/inflate.c
src/gzip/inftrees.c
src/gzip/inftrees.h
src/gzip/infutil.c
src/gzip/infutil.h
src/gzip/zconf.h
src/gzip/zlib.h
src/gzip/zutil.c
src/gzip/zutil.h
#
src/tools/apinames.c
src/tools/ftrandom/ftrandom.c
#
#
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```

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`Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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Version 2, June 1991

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[This is the first released version of the library GPL. It is  
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Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is the same as in the ordinary license.

The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively

promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

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"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the

application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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#### Appendix: How to Apply These Terms to Your New Libraries

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
<one line to give the library's name and a brief idea of what it does.>  
Copyright (C) <year> <name of author>
```

```
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modify it  
under the terms of the GNU Library General Public  
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version 2 of the License, or (at your option) any later version.
```

```
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You should have received a copy of the GNU Library General Public  
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Software Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.
```

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
Yoyodyne, Inc., hereby disclaims all copyright interest in the  
library `Frob' (a library  
for tweaking knobs) written by James Random Hacker.
```

```
<signature of Ty Coon>, 1 April 1990  
Ty Coon, President of Vice
```

That's all there is to it!

## 1.37 gdkpixbuf 2.18.9

### 1.37.1 Available under license :

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Version 2.1, February 1999

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When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting



the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

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- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
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- d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any

application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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# 1.42 libsm 1.2.2

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# 1.43 sg3-utils 2.0

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```

/* nicstar.c v0.22 Jawaid Bazyar (bazyar@hypermall.com)
* nicstar.c, M. Welsh (matt.welsh@cl.cam.ac.uk)
*
* Hacked October, 1997 by Jawaid Bazyar, Interlink Advertising Services Inc.
* http://www.hypermall.com/
* 10/1/97 - commented out CFG_PHYIE bit - we don't care when the PHY
* interrupts us (except possibly for removal/insertion of the cable?)
* 10/4/97 - began heavy inline documentation of the code. Corrected typos
* and spelling mistakes.
* 10/5/97 - added code to handle PHY interrupts, disable PHY on
* loss of link, and correctly re-enable PHY when link is
* re-established. (put back CFG_PHYIE)
*
* Modified to work with the IDT7721 nicstar -- AAL5 (tested) only.
*
* R. D. Rechenmacher <ron@fnal.gov>, Aug. 6, 1997
*
* Linux driver for the IDT77201 NICStAR PCI ATM controller.
* PHY component is expected to be 155 Mbps S/UNI-Lite or IDT 77155;
* see init_nicstar() for PHY initialization to change this. This driver
* expects the Linux ATM stack to support scatter-gather
lists
* (skb->atm.iovcnt != 0) for Rx skb's passed to vcc->push.
*
* Implementing minimal-copy of received data:
* IDT always receives data into a small buffer, then large buffers
* as needed. This means that data must always be copied to create
* the linear buffer needed by most non-ATM protocol stacks (e.g. IP)
* Fix is simple: make large buffers large enough to hold entire
* SDU, and leave <small_buffer_data> bytes empty at the start. Then
* copy small buffer contents to head of large buffer.
* Trick is to avoid fragmenting Linux, due to need for a lot of large
* buffers. This is done by 2 things:
* 1) skb->destructor / skb->atm.recycle_buffer
*    combined, allow nicstar_free_rx_skb to be called to
*    recycle large data buffers
* 2) skb_clone of received buffers
* See nicstar_free_rx_skb and linearize_buffer for implementation
* details.
*
*
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\* along with this program; if not, write to the Free Software  
\* Foundation, Inc., 675 Mass Ave, Cambridge, MA 02139, USA.  
\*  
\* M. Welsh, 6 July 1996  
\*  
\*  
\*/

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for his contributions to the dvb-net driver

Diego Picciani <d.picciani@novacomp.it>  
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(in case you are wondering where CyberLogin is, EON changed its login procedure and CyberLogin is no longer used.)

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for the nxt2004 frontend driver

Kirk Lapray <kirk.lapray@gmail.com>  
for the or51211 and or51132 frontend drivers, and

for merging the next2002 and next2004 modules into a single next200x frontend driver.

(If you think you should be in this list, but you are not, drop a line to the DVB mailing list)

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For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

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## 1.46 libnl3 3.2.21

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## 1.47 tcp-wrappers 7.6-57.el6

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```

*
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*
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## 1.56 libtirpc 0.2.4

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Python was created in the early 1990s by Guido van Rossum at Stichting  
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as a successor of a language called ABC. Guido remains Python's  
principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for

National Research Initiatives (CNRI, see <http://www.cnri.reston.va.us>) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see <http://www.zope.com>). In 2001, the Python Software Foundation (PSF, see <http://www.python.org/psf/>) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

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Release from	Derived from	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3	2.1.2			
2002	PSF	yes		
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
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```
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```
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```

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## 1.62 procps 3.3.10

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```

```
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## 1.63 tdb 1.41.12

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# 1.64 multipath-tools 0.8.3-1

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## 1.69 python-meh 0.11

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```

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\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-  
OgfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/firstboot.spec  
\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-  
OgfhTLML/firstboot.spec  
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OgfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/hu.po  
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\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/pt\_BR.po

\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/be.po

\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/bn\_IN.po

\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/nso.po

\*

/opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/am.po

\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/de.po

\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/bn.po

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* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/modules/welcome.py
*
/opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/firstboot/config.py
* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/firstboot/interface.py
* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/firstboot/loader.py
* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/firstboot/constants.py
* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/modules/eula.py
*
/opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/modules/create_user.py
* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/progs/firstboot
* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/firstboot/xfrontend.py
* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/firstboot/moduleset.py
* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/modules/date.py
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* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/ast.po
* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/pt.po
* /opt/cola/permits/1300628744_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/sl.po
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\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/sq.po

\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/hy.po

\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/si.po

\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/ml.po

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\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/firstboot.pot  
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\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/gu.po  
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\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/lo.po  
\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/ar.po  
\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/mr.po  
\*

/opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/ka.po  
\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/lt.po  
\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/te.po  
\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/ku.po  
\* /opt/cola/permits/1300628744\_1715759129.4753072/0/firstboot-1.110.10-1.el6.src.rpm-cosi-expand-archive-0gfhTLML/firstboot-1.110.10.tar.bz2-cosi-expand-archive-Gw3QcKtD/firstboot-1.110.10/po/ur.po  
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```

## 1.71 libogg 1.1.4-2.1.el6

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```
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```
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# 1.74 pango 1.28.1

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## 1.75 mdadm 3.2.3

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```

```
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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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b) Accompany

the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

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## 1.79 cryptsetup 1.4.5

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This is free software, and you are welcome to redistribute
it
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```
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```

```
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## 1.81 libuser 0.56.13-5.el6

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5.

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Ty Coon, President of Vice

That's all there is to it!

## 1.82 vim 7.2.411-1.8.el6

### 1.82.1 Available under license :

```
" netrw.vim: Handles file transfer and remote directory listing across
"     AUTOLOAD SECTION
" Date: Oct 23, 2008
" Version: 134
" Maintainer: Charles E Campbell, Jr <NdrOchip@ScampbellPfamily.AbizM-NOSPAM>
" GetLatestVimScripts: 1075 1 :AutoInstall: netrw.vim
" Copyright: Copyright (C) 1999-2008 Charles E. Campbell, Jr. {{{1
"     Permission is hereby granted to use and distribute this code,
"     with or without modifications, provided that this copyright
"     notice is copied with it. Like anything else that's free,
"     netrw.vim, netrwPlugin.vim, and netrwSettings.vim are provided
"     *as is* and come with no warranty of any kind, either
"     expressed or implied. By using this plugin, you agree that
"     in no event will the copyright holder be liable for any damages
"     resulting from the use of this software.
"redraw!|call DechoSep()|call inputsave()|call input("Press
<cr> to continue")|call inputrestore()
"
" But be doers of the Word, and not only hearers, deluding your own selves {{{1
" (James 1:22 RSV)
" -----
" Load Once: {{{1
if &cp || exists("g:loaded_netrw")
```

```

finish
endif
let g:loaded_netrw = "v134"
if v:version < 702
echohl WarningMsg
echo "***warning*** this version of netrw needs vim 7.2"
echohl Normal
finish
endif
if !exists("s:NOTE")
let s:NOTE = 0
let s:WARNING = 1
let s:ERROR = 2
endif

" sanity checks
if v:version < 700
call netrw#ErrorMsg(s:WARNING,"you need vim version 7.0 or later for version ".g:loaded_netrw." of netrw",1)
finish
endif

let s:keepcpo= &cpo
setlocal cpo&vim
"DechoTabOn
"call Decho("doing autoload/netrw.vim version ".g:loaded_netrw)

" =====
" Netrw Variables: {{{1
" =====

" -----
" Netrw Constants:
{{{2
if !exists("g:netrw_dirhist_cnt")
let g:netrw_dirhist_cnt= 0
endif
if !exists("s:LONGLIST")
let s:THINLIST = 0
let s:LONGLIST = 1
let s:WIDELIST = 2
let s:TREELIST = 3
let s:MAXLIST = 4
endif

" -----
" Default values for netrw's global protocol variables {{{2
if !exists("g:netrw_dav_cmd")
if executable("cadaver")

```

```

let g:netrw_dav_cmd = "cadaver"
elseif executable("curl")
let g:netrw_dav_cmd = "curl"
else
let g:netrw_dav_cmd = ""
endif
endif
if !exists("g:netrw_fetch_cmd")
if executable("fetch")
let g:netrw_fetch_cmd = "fetch -o"
else
let g:netrw_fetch_cmd = ""
endif
endif
if !exists("g:netrw_ftp_cmd")
let g:netrw_ftp_cmd = "ftp"
endif
if !exists("g:netrw_http_cmd")
if executable("elinks")
let g:netrw_http_cmd = "elinks"
if !exists("g:netrw_http_xcmd")
let g:netrw_http_xcmd= "-dump >"
endif
elseif executable("links")
let g:netrw_http_cmd
= "links"
if !exists("g:netrw_http_xcmd")
let g:netrw_http_xcmd= "-dump >"
endif
elseif executable("curl")
let g:netrw_http_cmd = "curl"
if !exists("g:netrw_http_xcmd")
let g:netrw_http_xcmd= "-o"
endif
elseif executable("wget")
let g:netrw_http_cmd = "wget"
if !exists("g:netrw_http_xcmd")
let g:netrw_http_xcmd= "-q -O"
endif
elseif executable("fetch")
let g:netrw_http_cmd = "fetch"
if !exists("g:netrw_http_xcmd")
let g:netrw_http_xcmd= "-o"
endif
else
let g:netrw_http_cmd = ""
endif
endif

```

```

if !exists("g:netrw_rcp_cmd")
  let g:netrw_rcp_cmd = "rcp"
endif
if !exists("g:netrw_rsync_cmd")
  let g:netrw_rsync_cmd = "rsync"
endif
if !exists("g:netrw_scp_cmd")
  let g:netrw_scp_cmd = "scp -q"
endif
if !exists("g:netrw_sftp_cmd")
  let g:netrw_sftp_cmd = "sftp"
endif
if !exists("g:netrw_ssh_cmd")
  let g:netrw_ssh_cmd = "ssh"
endif

if (has("win32") || has("win95") || has("win64") || has("win16"))
  \ && exists("g:netrw_use_nt_rcp")
  \ && g:netrw_use_nt_rcp
  \ && executable( $SystemRoot .'/system32/rcp.exe')
let s:netrw_has_nt_rcp = 1
let s:netrw_rcpmode = '-b'
else
let s:netrw_has_nt_rcp = 0
let s:netrw_rcpmode = ""
endif

" -----
" Default values for netrw's global variables {{{2
" Cygwin Detection ----- {{{3
if !exists("g:netrw_cygwin")
if has("win32") || has("win95") || has("win64") || has("win16")
if &shell =~ \%(\<bash>|\<zsh>)\%(\.exe)\=$'
  let g:netrw_cygwin= 1
else
  let g:netrw_cygwin= 0
endif
else
let g:netrw_cygwin= 0
endif
endif

" Default values - a-c ----- {{{3
if !exists("g:netrw_alto")
let g:netrw_alto= &sb
endif
if !exists("g:netrw_altv")
let g:netrw_altv= &spr
endif

```

```

if !exists("g:netrw_browse_split")
let g:netrw_browse_split= 0
endif
if !exists("g:netrw_chgwin")
let g:netrw_chgwin = -1
endif
if !exists("g:netrw_compress")
let
  g:netrw_compress= "gzip"
endif
if !exists("g:netrw_ctags")
let g:netrw_ctags= "ctags"
endif
if !exists("g:netrw_cursorline")
let g:netrw_cursorline= 1
let s:netrw_usercul = &cursorline
let s:netrw_usercuc = &cursorcolumn
endif
" Default values - d-g ----- {{{3
if !exists("g:netrw_dirhist_cnt")
let g:netrw_dirhist_cnt= 0
endif
if !exists("g:netrw_decompress")
let g:netrw_decompress= { ".gz" : "gunzip" , ".bz2" : "bunzip2" , ".zip" : "unzip" , ".tar" : "tar -xf" }
endif
if !exists("g:netrw_dirhistmax")
let g:netrw_dirhistmax= 10
endif
if !exists("g:netrw_fastbrowse")
let g:netrw_fastbrowse= 1
endif
if !exists("g:netrw_ftp_browse_reject")
let g:netrw_ftp_browse_reject='^total\s\+\d\+\$|^Trying\s\+\d\+.*$\|^KERBEROS_V\d rejected|^Security
extensions not\|No such file\|: connect to address [0-9a-fA-F:]*: No route to host$'
endif
if !exists("g:netrw_ftp_list_cmd")
if has("unix") || (exists("g:netrw_cygwin") && g:netrw_cygwin)
let g:netrw_ftp_list_cmd
  = "ls -lF"
let g:netrw_ftp_timelist_cmd = "ls -tlF"
let g:netrw_ftp_sizelist_cmd = "ls -slF"
else
let g:netrw_ftp_list_cmd = "dir"
let g:netrw_ftp_timelist_cmd = "dir"
let g:netrw_ftp_sizelist_cmd = "dir"
endif
endif
endif
if !exists("g:netrw_ftpmode")

```

```

let g:netrw_ftpmode= "binary"
endif
" Default values - h-lh ----- {{{3
if !exists("g:netrw_hide")
let g:netrw_hide= 1
endif
if !exists("g:netrw_ignorenetr")
if &shell =~ "\c\<\%(cmd\|4nt\)\.exe$"
let g:netrw_ignorenetr= 1
else
let g:netrw_ignorenetr= 0
endif
endif
if !exists("g:netrw_keepdir")
let g:netrw_keepdir= 1
endif
if !exists("g:netrw_list_cmd")
if g:netrw_scp_cmd =~ '^pscp' && executable("pscp")
" provide a 'pscp' listing command
if (has("win32") || has("win95") || has("win64") || has("win16")) && filereadable("c:\private.ppk")
let g:netrw_scp_cmd = "pscp -i C:\private.ppk"
endif
let g:netrw_list_cmd= g:netrw_scp_cmd." -ls USEPORT HOSTNAME:"
elseif
executable(g:netrw_ssh_cmd)
" provide a default listing command
let g:netrw_list_cmd= g:netrw_ssh_cmd." USEPORT HOSTNAME ls -FLa"
else
" call Decho(g:netrw_ssh_cmd." is not executable")
let g:netrw_list_cmd= ""
endif
endif
if !exists("g:netrw_list_hide")
let g:netrw_list_hide= ""
endif
" Default values - lh-lz ----- {{{3
if !exists("g:netrw_localcopycmd")
if has("win32") || has("win95") || has("win64") || has("win16")
if g:netrw_cygwin
let g:netrw_localcopycmd= "cp"
else
let g:netrw_localcopycmd= "copy"
endif
elseif has("unix") || has("macunix")
let g:netrw_localcopycmd= "cp"
else
let g:netrw_localcopycmd= ""
endif

```



```

endif
if !exists("g:netrw_local_mkdir")
let g:netrw_local_mkdir= "mkdir"
endif
if !exists("g:netrw_localmovecmd")
if has("win32") || has("win95") || has("win64") || has("win16")
if g:netrw_cygwin
let g:netrw_localmovecmd= "mv"
else
let g:netrw_localmovecmd= "move"
endif
elseif has("unix")
|| has("macunix")
let g:netrw_localmovecmd= "mv"
else
let g:netrw_localmovecmd= ""
endif
endif
if !exists("g:netrw_local_rmdir")
let g:netrw_local_rmdir= "rmdir"
endif
if !exists("g:netrw_liststyle")
let g:netrw_liststyle= s:THINLIST
endif
if g:netrw_liststyle < 0 || g:netrw_liststyle >= s:MAXLIST
" sanity check
let g:netrw_liststyle= s:THINLIST
endif
if g:netrw_liststyle == s:LONGLIST && g:netrw_scp_cmd !~ '^pscp'
let g:netrw_list_cmd= g:netrw_list_cmd." -l"
endif
" Default values - m-r ----- {{{3
if !exists("g:netrw_markfileesc")
let g:netrw_markfileesc= '*./[\~'
endif
if !exists("g:netrw_maxfilenamelen")
let g:netrw_maxfilenamelen= 32
endif
if !exists("g:netrw_menu")
let g:netrw_menu= 1
endif
if !exists("g:netrw_mkdir_cmd")
let g:netrw_mkdir_cmd= g:netrw_ssh_cmd." USEPORT HOSTNAME mkdir"
endif
if !exists("g:netrw_mousemaps")
if exists("&mouse") && &mouse =~ '[anh]'
let g:netrw_mousemaps= 1
else

```

```

let g:netrw_mousemaps= 0
endif
endif
if !exists("g:netrw_retmap")
let g:netrw_retmap= 0
endif
if !exists("g:netrw_preview")
let g:netrw_preview= 0
endif
if !exists("g:netrw_scpport")
let g:netrw_scpport= "-P"
endif
if !exists("g:netrw_sshport")
let g:netrw_sshport= "-p"
endif
if !exists("g:netrw_rename_cmd")
let g:netrw_rename_cmd= g:netrw_ssh_cmd." USEPORT HOSTNAME mv"
endif
if !exists("g:netrw_rm_cmd")
let g:netrw_rm_cmd = g:netrw_ssh_cmd." USEPORT HOSTNAME rm"
endif
if !exists("g:netrw_rmdir_cmd")
let g:netrw_rmdir_cmd = g:netrw_ssh_cmd." USEPORT HOSTNAME rmdir"
endif
if !exists("g:netrw_rmf_cmd")
let g:netrw_rmf_cmd = g:netrw_ssh_cmd." USEPORT HOSTNAME rm -f"
endif
" Default values - s ----- {{{3
" set up shell quoting character
if exists("g:netrw_silent") && g:netrw_silent != 0
let s:netrw_silentxfer= "silent "
else
let s:netrw_silentxfer= ""
endif
if !exists("g:netrw_sort_by")
" alternatives: date size
let g:netrw_sort_by= "name"
endif
if !exists("g:netrw_sort_options")
let g:netrw_sort_options= ""
endif
if !exists("g:netrw_sort_direction")
" alternative: reverse (z y x ...)
let g:netrw_sort_direction= "normal"
endif
if !exists("g:netrw_sort_sequence")
let g:netrw_sort_sequence= '[V]$,\.h$,\.c$,\.cpp$,*,\.o$,\.obj$,\.info$,\.swp$,\.bak$,\~$'
endif

```

```

if !exists("g:netrw_special_syntax")
let g:netrw_special_syntax= 0
endif
if !exists("g:netrw_ssh_browser_reject")
let g:netrw_ssh_browser_reject='^total\s\+\d\+$'
endif
if !has("patch192")
if !exists("g:netrw_use_noswf")
let g:netrw_use_noswf= 1
endif
else
let g:netrw_use_noswf= 0
endif
" Default values - t-w ----- {{{3
if !exists("g:netrw_timefmt")
let g:netrw_timefmt= "%c"
endif
if !exists("g:netrw_xstrlen")
let g:netrw_xstrlen= 1
endif
if !exists("g:NetrwTopLvlMenu")
let g:NetrwTopLvlMenu= "Netrw."
endif
if !exists("g:netrw_use_errorwindow")
let g:netrw_use_errorwindow= 1
endif
if !exists("g:netrw_win95ftp")
let g:netrw_win95ftp=
1
endif
if !exists("g:netrw_winsize")
let g:netrw_winsize= ""
endif
" -----
" Default values for netrw's script variables: {{{2
if !exists("g:netrw_fname_escape")
let g:netrw_fname_escape= '?&%'
endif
if !exists("g:netrw_glob_escape")
let g:netrw_glob_escape= '[]*?{~$'
endif
if !exists("g:netrw_tmpfile_escape")
let g:netrw_tmpfile_escape= '&';
endif
let s:netrw_map_escape = "<\n\r\\<C-V>\"

```

" BufEnter event ignored by decho when following variable is true

" Has a side effect that doau BufReadPost doesn't work, so

```

" files read by network transfer aren't appropriately highlighted.
"let g:decho_bufenter = 1 "Decho

" =====
" Netrw Utility Functions: {{{1
" =====

" -----
" s:NetrwOptionSave: save options and set to "standard" form {{{2
" 06/08/07 : removed
call to NetrwSafeOptions(), either placed
"     immediately after NetrwOptionSave() calls in NetRead
"     and NetWrite, or after the s:NetrwEnew() call in
"     NetrwBrowse.
"     vt: normally its "w:" or "s:" (a variable type)
fun! s:NetrwOptionSave(vt)
" call Dfunc("s:NetrwOptionSave(vt<"a:vt.>" win#" .winnr()." buf#" .bufnr("%").<" .bufname(bufnr("%")).>")

" call Decho(a:vt."netrw_optionsave".(exists("{a:vt}netrw_optionsave")? ("=".{a:vt}netrw_optionsave) : " doesn't
exist"))
if !exists("{a:vt}netrw_optionsave")
let {a:vt}netrw_optionsave= 1
else
" call Dret("s:NetrwOptionSave : options already saved")
return
endif
" call Decho("fo=" .&fo.(exists("&acd")? " acd=" .&acd : " acd doesn't exist"))

" Save current settings and current directory
let s:yykeep = @@
if exists("&l:acd")
let {a:vt}netrw_acdkeep = &l:acd
endif
let {a:vt}netrw_aikeep = &l:ai
let {a:vt}netrw_awkkeep = &l:aw
let {a:vt}netrw_cikeep = &l:ci
let {a:vt}netrw_cinkeep = &l:cin
let {a:vt}netrw_cinokeep = &l:cino
let {a:vt}netrw_comkeep = &l:com
let {a:vt}netrw_cpokeep = &l:cpo
if g:netrw_keeppdir
let {a:vt}netrw_dirkeep = getcwd()
endif
let {a:vt}netrw_fokeep = &l:fo " formatoptions
let {a:vt}netrw_gdkeep = &l:gd " gdefault
let {a:vt}netrw_hidkeep = &l:hidden
let {a:vt}netrw_magickeep = &l:magic
let {a:vt}netrw_repkeep = &l:report

```

```

let {a:vt}netrw_spellkeep = &l:spell
let {a:vt}netrw_twkeep = &l:tw " textwidth
let {a:vt}netrw_wigkeep = &l:wig " wildignore
if has("win32") && !has("win95")
  let {a:vt}netrw_swfkeep = &l:swf " swapfile
endif
if &go =~ 'a' | silent! let {a:vt}netrw_regstar = @* | endif
silent! let {a:vt}netrw_regslash= @/

" call Dret("s:NetrwOptionSave : win#".winnr()." buf#".bufnr("%"))
endfun

" -----
"
s:NetrwOptionRestore: restore options {{{2
fun! s:NetrwOptionRestore(vt)
" call Dfunc("s:NetrwOptionRestore(vt<".a:vt."> win#".winnr()." buf#".bufnr("%"))
if !exists("{a:vt}netrw_optionsave")
" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Dret("s:NetrwOptionRestore : ".a:vt."netrw_optionsave doesn't exist")
return
endif
unlet {a:vt}netrw_optionsave

if exists("&acd")
if exists("{a:vt}netrw_acdkeep")
" call Decho("g:netrw_keepdir="g:netrw_keepdir.": getcwd<".getcwd()."> acd=".&acd)
let curdir = getcwd()
let &l:acd = {a:vt}netrw_acdkeep
unlet {a:vt}netrw_acdkeep
if &l:acd
" call Decho("exe keepjumps lcd ".fnameescape(curdir)) " NOTE: was g:netrw_fname_escape for some reason
try
if !exists("&l:acd") && !&l:acd
exe 'keepjumps lcd '.fnameescape(curdir)
endif
catch /^Vim\%((\a\+))\=:E472/
call netrw#ErrorMsg(s:ERROR,"unable to change
directory to <".curdir."> (permissions?)",61)
endtry
endif
endif
endif

if exists("{a:vt}netrw_aikeep") |let &l:ai = {a:vt}netrw_aikeep |unlet {a:vt}netrw_aikeep |endif
if exists("{a:vt}netrw_awkeep") |let &l:aw = {a:vt}netrw_awkeep |unlet {a:vt}netrw_awkeep |endif
if exists("{a:vt}netrw_cikeep") |let &l:ci = {a:vt}netrw_cikeep |unlet {a:vt}netrw_cikeep |endif
if exists("{a:vt}netrw_cinkeep") |let &l:cin = {a:vt}netrw_cinkeep |unlet {a:vt}netrw_cinkeep |endif
if exists("{a:vt}netrw_cinokeep") |let &l:cino = {a:vt}netrw_cinokeep |unlet {a:vt}netrw_cinokeep |endif

```

```

if exists("{a:vt}netrw_comkeep") |let &l:com = {a:vt}netrw_comkeep |unlet {a:vt}netrw_comkeep |endif
if exists("{a:vt}netrw_cpokeep") |let &l:cpo = {a:vt}netrw_cpokeep |unlet {a:vt}netrw_cpokeep |endif
if exists("{a:vt}netrw_dirkeep") && isdirectory({a:vt}netrw_dirkeep) && g:netrw_keepdir
let dirkeep = substitute({a:vt}netrw_dirkeep, '\\','/', 'g')
if exists("{a:vt}netrw_dirkeep") |exe "keepjumps lcd ".fnameescape(dirkeep)|unlet {a:vt}netrw_dirkeep |endif
endif
if exists("{a:vt}netrw_fokeep") |let &l:fo = {a:vt}netrw_fokeep |unlet {a:vt}netrw_fokeep |endif
if exists("{a:vt}netrw_gdkeep") |let &l:gd = {a:vt}netrw_gdkeep |unlet {a:vt}netrw_gdkeep |endif
if exists("{a:vt}netrw_hidkeep") |let &l:hidden = {a:vt}netrw_hidkeep |unlet {a:vt}netrw_hidkeep |endif
if exists("{a:vt}netrw_magic") |let &l:magic = {a:vt}netrw_magic |unlet {a:vt}netrw_magic |endif
if exists("{a:vt}netrw_repkeep") |let &l:report = {a:vt}netrw_repkeep |unlet {a:vt}netrw_repkeep |endif
if exists("{a:vt}netrw_spellkeep")|let &l:spell = {a:vt}netrw_spellkeep |unlet {a:vt}netrw_spellkeep|endif
if exists("{a:vt}netrw_twkeep") |let &l:tw = {a:vt}netrw_twkeep |unlet {a:vt}netrw_twkeep |endif
if exists("{a:vt}netrw_wigkeep") |let &l:wig
= {a:vt}netrw_wigkeep |unlet {a:vt}netrw_wigkeep |endif
if exists("s:yykeep") |let @@ = s:yykeep |unlet s:yykeep |endif
if exists("{a:vt}netrw_swfkeep")
if &directory == ""
" user hasn't specified a swapfile directory;
" netrw will temporarily set the swapfile directory
" to the current directory as returned by getcwd().
let &l:directory = getcwd()
silent! let &l:swf = {a:vt}netrw_swfkeep
setlocal directory=
unlet {a:vt}netrw_swfkeep
elseif &l:swf != {a:vt}netrw_swfkeep
" following line causes a Press ENTER in windows -- can't seem to work around it!!!
silent! let &l:swf= {a:vt}netrw_swfkeep
unlet {a:vt}netrw_swfkeep
endif
endif
if exists("{a:vt}netrw_regstar") |silent! let @*= {a:vt}netrw_regstar |unlet {a:vt}netrw_regstar |endif
if exists("{a:vt}netrw_regslash")|silent! let @/= {a:vt}netrw_regslash|unlet {a:vt}netrw_regslash|endif

" call Decho("g:netrw_keepdir="g:netrw_keepdir.":
getcwd<".getcwd()."> acd=".&acd)
" call Decho("fo=".&fo.(exists("&acd")? " acd=".&acd : " acd doesn't exist"))
" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Dret("s:NetrwOptionRestore : win#".winnr()." buf#".bufnr("%"))
endfun

" -----
" s:NetrwSafeOptions: sets options to help netrw do its job {{{2
fun! s:NetrwSafeOptions()
" call Dfunc("s:NetrwSafeOptions() win#".winnr()." buf#".bufnr("%")."<".bufname(bufnr("%")).">")
" call Decho("window's ft=".&ft)
setlocal cino=
setlocal com=

```

```

setlocal cpo-=aA
if exists("&acd") | setlocal noacd | endif
setlocal nocin noai noci magic nospell nohid wig= noaw
setlocal fo=nroql2
setlocal tw=0
setlocal report=10000
setlocal isk+=@ isk+=* isk+=/
if g:netrw_use_noswf && has("win32") && !has("win95")
  setlocal noswf
endif
" call Decho("fo=".&fo.(exists("&acd")? "acd=".&acd
: "acd doesn't exist"))
" call Dret("s:NetrwSafeOptions")
endfun

" -----
" netrw#NetrwClean: remove netrw {{{2
" supports :NetrwClean -- remove netrw from first directory on runtimepath
"      :NetrwClean! -- remove netrw from all directories on runtimepath
fun! netrw#NetrwClean(sys)
" call Dfunc("netrw#NetrwClean(sys=".&a:sys.")")

if a:sys
  let choice= confirm("Remove personal and system copies of netrw?",&Yes\n&No")
else
  let choice= confirm("Remove personal copy of netrw?",&Yes\n&No")
endif
" call Decho("choice=".&choice)
let diddel= 0
let diddir= ""

if choice == 1
  for dir in split(&rtp,')
    if filereadable(dir."/plugin/netrwPlugin.vim")
"    call Decho("removing netrw-related files from ".&dir)
      if s:NetrwDelete(dir."/plugin/netrwPlugin.vim") |call netrw#ErrorMsg(1,"unable to remove
".&dir."/plugin/netrwPlugin.vim",55) |endif
      if s:NetrwDelete(dir."/autoload/netrwFileHandlers.vim")|call
netrw#ErrorMsg(1,"unable to remove ".&dir."/autoload/netrwFileHandlers.vim",55)|endif
      if s:NetrwDelete(dir."/autoload/netrwSettings.vim") |call netrw#ErrorMsg(1,"unable to remove
".&dir."/autoload/netrwSettings.vim",55) |endif
      if s:NetrwDelete(dir."/autoload/netrw.vim") |call netrw#ErrorMsg(1,"unable to remove
".&dir."/autoload/netrw.vim",55) |endif
      if s:NetrwDelete(dir."/syntax/netrw.vim") |call netrw#ErrorMsg(1,"unable to remove
".&dir."/syntax/netrw.vim",55) |endif
      if s:NetrwDelete(dir."/syntax/netrwlist.vim") |call netrw#ErrorMsg(1,"unable to remove
".&dir."/syntax/netrwlist.vim",55) |endif
      let diddir= dir
    endif
  endfor

```

```

    let diddel= diddel + 1
    if !a:sys|break|endif
endif
endfor
endif

echohl WarningMsg
if diddel == 0
    echomsg "netrw is either not installed or not removable"
elseif diddel == 1
    echomsg "removed one
copy of netrw from <".diddir.">"
else
    echomsg "removed ".diddel." copies of netrw"
endif
echohl None

" call Dret("netrw#NetrwClean")
endfun

" -----
" Netrw Transfer Functions: {{{1
" =====

" -----
" netrw#NetRead: responsible for reading a file over the net {{{2
" mode: =0 read remote file and insert before current line
"       =1 read remote file and insert after current line
"       =2 replace with remote file
"       =3 obtain file, but leave in temporary format
fun! netrw#NetRead(mode,...)
" call Dfunc("netrw#NetRead(mode=".a:mode.",...) a:0=".a:0." ".g:loaded_netrw)

" save options {{{3
call s:NetrwOptionSave("w:")
call s:NetrwSafeOptions()

" interpret mode into a readcmd {{{3
if a:mode == 0 " read remote file before current line
    let readcmd = "Or"
elseif
a:mode == 1 " read file after current line
    let readcmd = "r"
elseif a:mode == 2 " replace with remote file
    let readcmd = "%r"
elseif a:mode == 3 " skip read of file (leave as temporary)
    let readcmd = "t"
else

```



```

exe a:mode
let readcmd = "r"
endif
let icoice = (a:0 == 0)? 0 : 1
" call Decho("readcmd<".readcmd."> icoice=".icoice)

" Get Temporary Filename {{{3
let tmpfile= s:GetTempfile("")
if tmpfile == ""
" call Dret("netrw#NetRead : unable to get a tempfile!")
return
endif

while icoice <= a:0

" attempt to repeat with previous host-file-etc
if exists("b:netrw_lastfile") && a:0 == 0
" call Decho("using b:netrw_lastfile<" . b:netrw_lastfile . ">")
let choice = b:netrw_lastfile
let icoice= icoice + 1

else
exe "let choice= a:" . icoice
" call Decho("no lastfile: choice<" . choice . ">")

if match(choice, "?") == 0
" give help
echomsg 'NetRead Usage:'
echomsg
':Nread machine:path          uses rcp'
echomsg ':Nread "machine path"          uses ftp  with <.netrc>'
echomsg ':Nread "machine id password path"      uses ftp'
echomsg ':Nread dav://machine[:port]/path      uses cadaver'
echomsg ':Nread fetch://machine/path          uses fetch'
echomsg ':Nread ftp://[user@]machine[:port]/path  uses ftp  autodetects <.netrc>'
echomsg ':Nread http://[user@]machine/path      uses http  wget'
echomsg ':Nread rcp://[user@]machine/path        uses rcp'
echomsg ':Nread rsync://machine[:port]/path      uses rsync'
echomsg ':Nread scp://[user@]machine[:#]port]/path  uses scp'
echomsg ':Nread sftp://[user@]machine[:#]port]/path  uses sftp'
sleep 4
break

elseif match(choice, '^') != -1
" Reconstruct Choice if choice starts with ""
" call Decho("reconstructing choice")
if match(choice, "$") != -1

```

```

" case "...
let choice=strpart(choice,1,strlen(choice)-2)
else
  " case "... ... ..."
let choice = strpart(choice,1,strlen(choice)-1)
let wholechoice = ""

while match(choice,"$") == -1
  let wholechoice = wholechoice . " " . choice
  let icoice = icoice + 1
  if icoice > a:0
    if !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:ERROR,"Unbalanced string in filename ". wholechoice . """,3)
endif
" call Dret("netrw#NetRead :2 getcwd<".getcwd().">")
  return
  endif
  let choice= a:{icoice}
endwhile
let choice= strpart(wholechoice,1,strlen(wholechoice)-1) . " " . strpart(choice,0,strlen(choice)-1)
endif
endif
endif

" call Decho("choice<" . choice . ">")
let icoice= icoice + 1

" Determine method of read (ftp, rcp, etc) {{{3
call s:NetrwMethod(choice)
if !exists("b:netrw_method") || b:netrw_method < 0
" call Dfunc("netrw#NetRead
: unsupported method")
return
endif
let tmpfile= s:GetTempfile(b:netrw_fname) " apply correct suffix

" Check if NetrwBrowse() should be handling this request
" call Decho("checking if NetrwBrowse() should handle choice<" . choice . "> with
netrw_list_cmd<".g:netrw_list_cmd.">")
if choice =~ "^.*[\\/$]" && b:netrw_method != 5 && choice !~ '^http://'
" call Decho("yes, choice matches '^.*[\\/$]'")
keepjumps call s:NetrwBrowse(0,choice)
" call Dret("netrw#NetRead :3 getcwd<".getcwd().">")
return
endif

" =====
" Perform Protocol-Based Read {{{3

```

```

" =====
if exists("g:netrw_silent") && g:netrw_silent == 0 && &ch >= 1
  echo "(netrw) Processing your read request..."
endif

" .....
" rcp: NetRead Method #1 {{{3
if b:netrw_method == 1 " read with rcp
"  call Decho("read via rcp (method #1)")
" ER: nothing done with g:netrw_uid yet?

" ER: on Win2K" rcp machine[.user]:file tmpfile
" ER: if machine contains '.' adding .user is required (use $USERNAME)
" ER: the tmpfile is full path: rcp sees C:\... as host C
if s:netrw_has_nt_rcp == 1
if exists("g:netrw_uid") && ( g:netrw_uid != "" )
  let uid_machine = g:netrw_machine .'.' g:netrw_uid
else
  " Any way needed it machine contains a '.'
  let uid_machine = g:netrw_machine .'.' $USERNAME
endif
else
if exists("g:netrw_uid") && ( g:netrw_uid != "" )
  let uid_machine = g:netrw_uid .'@'. g:netrw_machine
else
  let uid_machine = g:netrw_machine
endif
endif

"  call Decho("executing: !" g:netrw_rcp_cmd." ".s:netrw_rcpmode."
".shellescape(uid_machine)." ".b:netrw_fname,1)." ".shellescape(tmpfile,1))
exe s:netrw_silentxfer."!" g:netrw_rcp_cmd." ".s:netrw_rcpmode."
".shellescape(uid_machine)." ".b:netrw_fname,1)." ".shellescape(tmpfile,1)
let result      = s:NetrwGetFile(readcmd, tmpfile, b:netrw_method)
let b:netrw_lastfile = choice

" .....
" ftp + <.netrc>: NetRead Method #2 {{{3
elseif b:netrw_method == 2 " read with ftp + <.netrc>
"  call Decho("read via ftp+.netrc (method #2)")
let netrw_fname= b:netrw_fname
call s:SaveBufVars()|new|call s:RestoreBufVars()
let filtbuf= bufnr("%")
setlocal ff=unix
put =g:netrw_ftpmode
"  call Decho("filter input: ".getline(line("$")))
if exists("g:netrw_ftpextracmd")
  put =g:netrw_ftpextracmd
"  call Decho("filter input: ".getline(line("$")))

```

```

endif
call setline(line("$")+1,'get ".netrw_fname."' .tmpfile)
" call Decho("filter input: ".getline(line("$")))
if exists("g:netrw_port") && g:netrw_port != ""
" call Decho("executing: %!" .g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine." " .g:netrw_port,1))
exe s:netrw_silentxfer."%!" .g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine." " .g:netrw_port,1)
else
" call Decho("executing: %!" .g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine,1))
exe s:netrw_silentxfer."%!" .g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine,1)
endif
" If the result of the ftp operation isn't blank, show an error message (tnx to Doug Claar)
if getline(1) !~ "^$" && !exists("g:netrw_quiet") && getline(1) !~ '^Trying '
let debugkeep = &debug
setlocal debug=msg
call netrw#ErrorMsg(s:ERROR,getline(1),4)
let &debug = debugkeep
endif
call s:SaveBufVars()
bd!
if bufname("%") == "" && getline("$") == "" && line('$') == 1
" needed when one sources a file in a nolbl setting window via ftp
q!
endif
call s:RestoreBufVars()
let result = s:NetrwGetFile(readcmd, tmpfile, b:netrw_method)
let b:netrw_lastfile = choice

".....
" ftp + machine,id,passwd,filename: NetRead Method #3 {{{3
elseif b:netrw_method == 3 " read with ftp + machine, id, passwd, and fname
" Construct execution string (four lines) which will be passed through filter
" call Decho("read via ftp+mipf (method #3)")
let netrw_fname= escape(b:netrw_fname,g:netrw_fname_escape)
call s:SaveBufVars()|new|call s:RestoreBufVars()
let filtbuf= bufnr("%")
setlocal ff=unix
if exists("g:netrw_port") && g:netrw_port != ""
put ='open '.g:netrw_machine.' '.g:netrw_port
" call Decho("filter input: ".getline('.'))
else
put ='open '.g:netrw_machine
" call Decho("filter input: ".getline('.'))
endif

if exists("g:netrw_ftp") && g:netrw_ftp == 1
put =g:netrw_uid
" call Decho("filter input: ".getline('.'))
put =\".s:netrw_passwd.\""

```

```

" call Decho("filter input: ".getline('.'))
else
  put ='user \'".g:netrw_uid.'"\'".s:netrw_passwd.'"\'"'
" call Decho("filter input: ".getline('.'))
endif

if exists("g:netrw_ftpmode")
&& g:netrw_ftpmode != ""
  put =g:netrw_ftpmode
" call Decho("filter input: ".getline('.'))
endif
if exists("g:netrw_ftpextracmd")
  put =g:netrw_ftpextracmd
" call Decho("filter input: ".getline('.'))
endif
put ='get \'".netrw_fname.'" \'tmpfile
" call Decho("filter input: ".getline('.'))

" perform ftp:
" -i : turns off interactive prompting from ftp
" -n unix : DON'T use <.netrc>, even though it exists
" -n win32: quit being obnoxious about password
norm! 1Gdd
" call Decho("executing: %!"g:netrw_ftp_cmd." -i -n")
exe s:netrw_silentxfer."%!"g:netrw_ftp_cmd." -i -n"
" If the result of the ftp operation isn't blank, show an error message (tnx to Doug Claar)
if getline(1) !~ "^$"
" call Decho("error<".getline(1).">")
if !exists("g:netrw_quiet")
  call netrw#ErrorMsg(s:ERROR,getline(1),5)
endif
endif
call s:SaveBufVars()|bd!|call s:RestoreBufVars()
let result = s:NetrwGetFile(readcmd, tmpfile, b:netrw_method)
let b:netrw_lastfile = choice

".....
" scp: NetRead Method #4 {{{3
elseif b:netrw_method == 4 " read with scp
" call Decho("read via scp (method #4)")
if exists("g:netrw_port") && g:netrw_port != ""
  let useport= " ".g:netrw_scpport." ".g:netrw_port
else
  let useport= ""
endif
" call Decho("exe s:netrw_silentxfer.!"g:netrw_scp_cmd.useport."
".shellescape(g:netrw_machine.":"b:netrw_fname,1)." ".shellescape(tmpfile,1))
exe s:netrw_silentxfer."!"g:netrw_scp_cmd.useport." ".shellescape(g:netrw_machine.":"b:netrw_fname,1)."

```

```

".shellescape(tmpfile,1)
  let result      = s:NetrwGetFile(readcmd, tmpfile, b:netrw_method)
  let b:netrw_lastfile = choice

".....
" http: NetRead Method #5 (wget) {{{3
elseif  b:netrw_method == 5
"  call Decho("read via
http (method #5)")
  if g:netrw_http_cmd == ""
  if !exists("g:netrw_quiet")
    call netrw#ErrorMsg(s:ERROR,"neither the wget nor the fetch command is available",6)
  endif
"  call Dret("netrw#NetRead :4 getcwd<".getcwd().">")
  return
endif

if match(b:netrw_fname,"#") == -1 || exists("g:netrw_http_xcmd")
  " using g:netrw_http_cmd (usually elinks, links, curl, wget, or fetch)
"  call Decho('using '.g:netrw_http_cmd.' (# not in b:netrw_fname<'.b:netrw_fname.">')
  if exists("g:netrw_http_xcmd")
"    call Decho("exe ".s:netrw_silentxfer."!".g:netrw_http_cmd."
".shellescape("http://".g:netrw_machine.b:netrw_fname,1)." ".g:netrw_http_xcmd." ".shellescape(tmpfile,1))
    exe s:netrw_silentxfer."!".g:netrw_http_cmd." ".shellescape("http://".g:netrw_machine.b:netrw_fname,1)."
".g:netrw_http_xcmd." ".shellescape(tmpfile,1)
    else
"    call Decho("exe ".s:netrw_silentxfer."!".g:netrw_http_cmd." ".shellescape(tmpfile,1)."
".shellescape("http://".g:netrw_machine.b:netrw_fname,1))
    exe s:netrw_silentxfer."!".g:netrw_http_cmd." ".shellescape(tmpfile,1)."
".shellescape("http://".g:netrw_machine.b:netrw_fname,1)
  endif
  let result = s:NetrwGetFile(readcmd, tmpfile, b:netrw_method)

else
  " wget/curl/fetch plus a jump to an in-page marker (ie. http://abc/def.html#aMarker)
"  call Decho(("wget/curl plus jump (# in b:netrw_fname<".b:netrw_fname.">)")
  let netrw_html= substitute(b:netrw_fname,"#.*$", "", "")
  let netrw_tag = substitute(b:netrw_fname,"^.*#", "", "")
"  call Decho("netrw_html<".netrw_html.">")
"  call Decho("netrw_tag <".netrw_tag.">")
"  call Decho("exe ".s:netrw_silentxfer."!".g:netrw_http_cmd." ".shellescape(tmpfile,1)."
".shellescape("http://".g:netrw_machine.netrw_html,1))
  exe s:netrw_silentxfer."!".g:netrw_http_cmd." ".shellescape(tmpfile,1)."
".shellescape("http://".g:netrw_machine.netrw_html,1)
  let result = s:NetrwGetFile(readcmd, tmpfile,
b:netrw_method)
"  call Decho('<\s*a\s*name=\s*"' .netrw_tag.'"')
  exe 'norm! 1G/<\s*a\s*name=\s*"' .netrw_tag.'" /.'"<CR>'

```

```

endif
let b:netrw_lastfile = choice
setlocal ro

".....
" dav: NetRead Method #6 {{{3
elseif b:netrw_method == 6
" call Decho("read via cadaver (method #6)")

if !executable(g:netrw_dav_cmd)
call netrw#ErrorMsg(s:ERROR,g:netrw_dav_cmd." is not executable",73)
" call Dret("netrw#NetRead : ".g:netrw_dav_cmd." not executable")
return
endif
if g:netrw_dav_cmd =~ "curl"
" call Decho("exe ".s:netrw_silentxfer."!".g:netrw_dav_cmd."
".shellescape("dav://" .g:netrw_machine.b:netrw_fname,1)." ".shellescape(tmpfile,1))
exe s:netrw_silentxfer."!".g:netrw_dav_cmd." ".shellescape("dav://" .g:netrw_machine.b:netrw_fname,1)."
".shellescape(tmpfile,1)
else
" Construct execution string (four lines) which will be passed through filter
let netrw_fname=
escape(b:netrw_fname,g:netrw_fname_escape)
new
setlocal ff=unix
if exists("g:netrw_port") && g:netrw_port != ""
put ='open '.g:netrw_machine.' '.g:netrw_port
else
put ='open '.g:netrw_machine
endif
put ='user '.g:netrw_uid.' '.s:netrw_passwd
put ='get '.netrw_fname.' '.tmpfile
put ='quit'

" perform cadaver operation:
norm! lGdd
" call Decho("executing: %!" .g:netrw_dav_cmd)
exe s:netrw_silentxfer."%!" .g:netrw_dav_cmd
bd!
endif
let result = s:NetrwGetFile(readcmd, tmpfile, b:netrw_method)
let b:netrw_lastfile = choice

".....
" rsync: NetRead Method #7 {{{3
elseif b:netrw_method == 7
" call Decho("read via rsync (method #7)")
" call Decho("exe ".s:netrw_silentxfer."!".g:netrw_rsync_cmd."

```

```

".shellescape(g:netrw_machine." : ".b:netrw_fname,1)." ".shellescape(tmpfile,1))
  exe s:netrw_silentxfer."!"g:netrw_rsync_cmd."
".shellescape(g:netrw_machine." : ".b:netrw_fname,1)." ".shellescape(tmpfile,1)
  let result = s:NetrwGetFile(readcmd,tmpfile, b:netrw_method)
  let b:netrw_lastfile = choice

".....
" fetch: NetRead Method #8 {{{3
"  fetch://[user@]host[:http]/path
elseif b:netrw_method == 8
"  call Decho("read via fetch (method #8)")
if g:netrw_fetch_cmd == ""
  if !exists("g:netrw_quiet")
    call netrw#ErrorMsg(s:ERROR,"fetch command not available",7)
  endif
"  call Dret("NetRead")
endif
if exists("g:netrw_option") && g:netrw_option == ":http"
  let netrw_option= "http"
else
  let netrw_option= "ftp"
endif
"  call Decho("read via fetch for ".netrw_option)

if exists("g:netrw_uid") && g:netrw_uid != "" && exists("s:netrw_passwd") && s:netrw_passwd != ""
"  call Decho("exe ".s:netrw_silentxfer."!"g:netrw_fetch_cmd." ".shellescape(tmpfile,1).")
".shellescape(netrw_option." : "/"g:netrw_uid."!:"s:netrw_passwd.'@'g:netrw_machine."/"b:netrw_fname,1))
  exe s:netrw_silentxfer."!"g:netrw_fetch_cmd." ".shellescape(tmpfile,1).")
".shellescape(netrw_option." : "/"g:netrw_uid."!:"s:netrw_passwd.'@'g:netrw_machine."/"b:netrw_fname,1)
  else
"  call Decho("exe ".s:netrw_silentxfer."!"g:netrw_fetch_cmd." ".shellescape(tmpfile,1).")
".shellescape(netrw_option." : "/"g:netrw_machine."/"b:netrw_fname,1))
  exe s:netrw_silentxfer."!"g:netrw_fetch_cmd." ".shellescape(tmpfile,1).")
".shellescape(netrw_option." : "/"g:netrw_machine."/"b:netrw_fname,1)
  endif

let result = s:NetrwGetFile(readcmd,tmpfile, b:netrw_method)
let b:netrw_lastfile = choice
setlocal ro

".....
" sftp: NetRead Method #9 {{{3
elseif b:netrw_method == 9
"  call Decho("read via sftp (method #9)")
"  call Decho("exe ".s:netrw_silentxfer."!"g:netrw_sftp_cmd."
".shellescape(g:netrw_machine." : ".b:netrw_fname,1).")
".tmpfile)
  exe s:netrw_silentxfer."!"g:netrw_sftp_cmd." ".shellescape(g:netrw_machine." : ".b:netrw_fname,1).") ".tmpfile

```



```

let result = s:NetrwGetFile(readcmd, tmpfile, b:netrw_method)
let b:netrw_lastfile = choice

" .....
" Complain {{{3
else
  call netrw#ErrorMsg(s:WARNING,"unable to comply with your request<" . choice . ">",8)
endif
endwhile

" cleanup {{{3
if exists("b:netrw_method")
"  call Decho("cleanup b:netrw_method and b:netrw_fname")
  unlet b:netrw_method
  unlet b:netrw_fname
endif
if s:FileReadable(tmpfile) && tmpfile !~ '.tar.bz2$' && tmpfile !~ '.tar.gz$' && tmpfile !~ '.zip' && tmpfile !~ '.tar'
&& readcmd != 't'
"  call Decho("cleanup by deleting tmpfile<".tmpfile.">")
  call s:NetrwDelete(tmpfile)
endif
call s:NetrwOptionRestore("w:")

" call Dret("netrw#NetRead :5 getcwd<".getcwd().">")
endfun

" -----
"
netrw#NetWrite: responsible for writing a file over the net {{{2
fun! netrw#NetWrite(...) range
"  call Dfunc("netrw#NetWrite(a:0=""a:0.") ".g:loaded_netrw)

" option handling
let mod= 0
call s:NetrwOptionSave("w:")
call s:NetrwSafeOptions()

" Get Temporary Filename {{{3
let tmpfile= s:GetTempfile("")
if tmpfile == ""
"  call Dret("netrw#NetWrite : unable to get a tempfile!")
  return
endif

if a:0 == 0
  let ichoice = 0
else
  let ichoice = 1

```

```

endif

let curbufname= expand("%")
" call Decho("curbufname<".curbufname.">")
if &binary
" For binary writes, always write entire file.
" (line numbers don't really make sense for that).
" Also supports the writing of tar and zip files.
" call Decho("(write entire file) silent exe w! ".fnameescape(v:cmdarg)." ".fnameescape(tmpfile))
silent exe "w! ".fnameescape(v:cmdarg)." ".fnameescape(tmpfile)
elseif g:netrw_cygwin
" write (selected portion
of) file to temporary
let cygtmpfile= substitute(tmpfile,'/cygdrive/(\.)',\1:',")
" call Decho("(write selected portion) silent exe ".a:firstline.", " . a:lastline . "w! ".fnameescape(v:cmdarg)."
".fnameescape(cygtmpfile))
silent exe a:firstline.", " . a:lastline . "w! ".fnameescape(v:cmdarg)." ".fnameescape(cygtmpfile)
else
" write (selected portion of) file to temporary
" call Decho("(write selected portion) silent exe ".a:firstline.", " . a:lastline . "w! ".fnameescape(v:cmdarg)."
".fnameescape(tmpfile))
silent exe a:firstline.", " . a:lastline . "w! ".fnameescape(v:cmdarg)." ".fnameescape(tmpfile)
endif

if curbufname == ""
" if the file is [No Name], and one attempts to Nwrite it, the buffer takes
" on the temporary file's name. Deletion of the temporary file during
" cleanup then causes an error message.
Ofile!
endif

" While choice loop: {{{3
while ichoice <= a:0

" Process arguments: {{{4
" attempt to repeat
with previous host-file-etc
if exists("b:netrw_lastfile") && a:0 == 0
" call Decho("using b:netrw_lastfile<" . b:netrw_lastfile . ">")
let choice = b:netrw_lastfile
let ichoice= ichoice + 1
else
exe "let choice= a:" . ichoice

" Reconstruct Choice if choice starts with ""
if match(choice,"?") == 0
echomsg 'NetWrite Usage:'
echomsg ':Nwrite machine:path          uses rcp'

```

```

echomsg ':Nwrite "machine path"          uses ftp with <.netrc>'
echomsg ':Nwrite "machine id password path"    uses ftp'
echomsg ':Nwrite dav://[user@]machine/path    uses cadaver'
echomsg ':Nwrite fetch://[user@]machine/path  uses fetch'
echomsg ':Nwrite ftp://machine[#port]/path    uses ftp (autodetects <.netrc>)'
echomsg ':Nwrite rcp://machine/path          uses rcp'
echomsg ':Nwrite rsync://[user@]machine/path  uses rsync'
echomsg ':Nwrite scp://[user@]machine[:#]port]/path
uses scp'
echomsg ':Nwrite sftp://[user@]machine/path    uses sftp'
sleep 4
break

elseif match(choice,"^\\") != -1
if match(choice,"\\$" ) != -1
" case "..."
let choice=strpart(choice,1,strlen(choice)-2)
else
" case "... .. ..."
let choice = strpart(choice,1,strlen(choice)-1)
let wholechoice = ""

while match(choice,"\\$" ) == -1
let wholechoice= wholechoice . " " . choice
let icoice = icoice + 1
if choice > a:0
if !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:ERROR,"Unbalanced string in filename ". wholechoice . """,13)
endif
" call Dret("netrw#NetWrite")
return
endif
let choice= a:{icoice}
endwhile
let choice= strpart(wholechoice,1,strlen(wholechoice)-1) . " " . strpart(choice,0,strlen(choice)-1)
endif
endif
let icoice= icoice + 1
" call Decho("choice<"
. choice . "> icoice=".icoice)

" Determine method of write (ftp, rcp, etc) {{{4
call s:NetrwMethod(choice)
if !exists("b:netrw_method") || b:netrw_method < 0
" call Dfunc("netrw#NetWrite : unsupported method")
return
endif

```

```

" =====
" Perform Protocol-Based Write {{{4
" =====
if exists("g:netrw_silent") && g:netrw_silent == 0 && &ch >= 1
  echo "(netrw) Processing your write request..."
"   call Decho("(netrw) Processing your write request...")
endif

".....
" rcp: NetWrite Method #1 {{{4
if b:netrw_method == 1
"   call Decho("write via rcp (method #1)")
if s:netrw_has_nt_rcp == 1
  if exists("g:netrw_uid") && ( g:netrw_uid != "" )
    let uid_machine = g:netrw_machine .'.' g:netrw_uid
  else
    let uid_machine = g:netrw_machine .'.' $USERNAME
  endif
else
  if exists("g:netrw_uid") && ( g:netrw_uid != ""
)
    let uid_machine = g:netrw_uid .'@'. g:netrw_machine
  else
    let uid_machine = g:netrw_machine
  endif
endif
"   call Decho("executing: !" g:netrw_rcp_cmd." " s:netrw_rcpmode." " shellescape(tmpfile,1)."
" shellescape(uid_machine." ":" b:netrw_fname,1))
  exe s:netrw_silentxfer." !" g:netrw_rcp_cmd." " s:netrw_rcpmode." " shellescape(tmpfile,1)."
" shellescape(uid_machine." ":" b:netrw_fname,1)
  let b:netrw_lastfile = choice

".....
" ftp + <.netrc>: NetWrite Method #2 {{{4
elseif b:netrw_method == 2
"   call Decho("write via ftp+.netrc (method #2)")
  let netrw_fname= b:netrw_fname
  new
"   call Decho("filter input window#" .winnr())
  setlocal ff=unix
  put =g:netrw_ftpmode
"   call Decho("filter input: " .getline('$'))
  if exists("g:netrw_ftpextracmd")
    put =g:netrw_ftpextracmd
"   call Decho("filter input: " .getline("$"))
  endif
  call setline(line("$")+1,'put "'.tmpfile.'"

```

```

".netrw_fname.")
" call Decho("filter input: ".getline("$"))
if exists("g:netrw_port") && g:netrw_port != ""
" call Decho("executing: %!".g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine,1)."
".shellescape(g:netrw_port,1))
exe s:netrw_silentxfer."%!".g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine,1)."
".shellescape(g:netrw_port,1)
else
" call Decho("filter input window#".winnr())
" call Decho("executing: %!".g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine,1))
exe s:netrw_silentxfer."%!".g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine,1)
endif
" If the result of the ftp operation isn't blank, show an error message (tnx to Doug Claar)
if getline(1) !~ "^$"
if !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:ERROR,getline(1),14)
endif
let mod=1
endif
bd!
let b:netrw_lastfile = choice

".....
" ftp + machine, id, passwd, filename:
NetWrite Method #3 {{{4
elseif b:netrw_method == 3
" Construct execution string (four lines) which will be passed through filter
" call Decho("read via ftp+mipf (method #3)")
let netrw_fname= b:netrw_fname
new
setlocal ff=unix
if exists("g:netrw_port") && g:netrw_port != ""
put ='open '.g:netrw_machine.' '.g:netrw_port
" call Decho("filter input: ".getline('.'))
else
put ='open '.g:netrw_machine
" call Decho("filter input: ".getline('.'))
endif
if exists("g:netrw_ftp") && g:netrw_ftp == 1
put =g:netrw_uid
" call Decho("filter input: ".getline('.'))
put =\".s:netrw_passwd.\"
" call Decho("filter input: ".getline('.'))
else
put ='user \".g:netrw_uid.\" \"\".s:netrw_passwd.\"
" call Decho("filter input: ".getline('.'))
endif
put ='put \"'.tmpfile.\" \"'.netrw_fname.\"

```

```

" call Decho("filter input: ".getline('.'))
" save choice/id/password for future use
let b:netrw_lastfile = choice

" perform ftp:
" -i      : turns off interactive prompting from ftp
" -n unix : DON'T use <.netrc>, even though it exists
" -n win32: quit being obnoxious about password
norm! 1Gdd
" call Decho("executing: %!" .g:netrw_ftp_cmd." -i -n")
exe s:netrw_silentxfer."%!" .g:netrw_ftp_cmd." -i -n"
" If the result of the ftp operation isn't blank, show an error message (tnx to Doug Claar)
if getline(1) !~ "^$"
  if !exists("g:netrw_quiet")
    call netrw#ErrorMsg(s:ERROR,getline(1),15)
  endif
  let mod=1
endif
bd!

".....
" scp: NetWrite Method #4 {{{4
elseif b:netrw_method == 4
" call Decho("write via scp (method #4)")
if exists("g:netrw_port") && g:netrw_port != ""
  let useport= " ".g:netrw_scpport." ".fnameescape(g:netrw_port)
else
  let useport= ""
endif
" call Decho("exe ".s:netrw_silentxfer."!" .g:netrw_scp_cmd.useport."
".shellescape(tmpfile,1)." ".shellescape(g:netrw_machine.":" .b:netrw_fname,1))
exe s:netrw_silentxfer."!" .g:netrw_scp_cmd.useport." ".shellescape(tmpfile,1)."
".shellescape(g:netrw_machine.":" .b:netrw_fname,1)
let b:netrw_lastfile = choice

".....
" http: NetWrite Method #5 {{{4
elseif b:netrw_method == 5
" call Decho("write via http (method #5)")
if !exists("g:netrw_quiet")
  call netrw#ErrorMsg(s:ERROR,"currently <netrw.vim> does not support writing using http:",16)
endif

".....
" dav: NetWrite Method #6 (cadaver) {{{4
elseif b:netrw_method == 6
" call Decho("write via cadaver (method #6)")

```

```

" Construct execution string (four lines) which will be passed through filter
let netrw_fname= escape(b:netrw_fname,g:netrw_fname_escape)
new
setlocal ff=unix
if exists("g:netrw_port") && g:netrw_port != ""

put ='open 'g:netrw_machine.' 'g:netrw_port
else
put ='open 'g:netrw_machine
endif
if exists("g:netrw_uid") && exists("s:netrw_passwd")
put ='user 'g:netrw_uid.' 's:netrw_passwd
endif
put ='put 'tmpfile.' 'netrw_fname

" perform cadaver operation:
norm! 1Gdd
" call Decho("executing: %!"g:netrw_dav_cmd)
exe s:netrw_silentxfer."%!"g:netrw_dav_cmd
bd!
let b:netrw_lastfile = choice

".....
" rsync: NetWrite Method #7 {{{4
elseif b:netrw_method == 7
" call Decho("write via rsync (method #7)")
" call Decho("executing: !"g:netrw_rsync_cmd." ".shellescape(tmpfile,1)."
.shellescape(g:netrw_machine."".b:netrw_fname,1))
exe s:netrw_silentxfer."!"g:netrw_rsync_cmd." ".shellescape(tmpfile,1)."
.shellescape(g:netrw_machine."".b:netrw_fname,1)
let b:netrw_lastfile = choice

".....
" sftp: NetWrite Method
#9 {{{4
elseif b:netrw_method == 9
" call Decho("read via sftp (method #9)")
let netrw_fname= escape(b:netrw_fname,g:netrw_fname_escape)
if exists("g:netrw_uid") && ( g:netrw_uid != "" )
let uid_machine = g:netrw_uid .'@'. g:netrw_machine
else
let uid_machine = g:netrw_machine
endif
new
setlocal ff=unix
put ='put \"\".escape(tmpfile,\\).\" \" 'netrw_fname
" call Decho("filter input: ".getline('.')')
norm! 1Gdd

```

```

" call Decho("executing: %!" .g:netrw_sftp_cmd.' '.shellescape(uid_machine,1))
exe s:netrw_silentxfer."%!" .g:netrw_sftp_cmd.' '.shellescape(uid_machine,1)
bd!
let b:netrw_lastfile= choice

" .....
" Complain {{{4
else
  call netrw#ErrorMsg(s:WARNING,"unable to comply with your request<" . choice . ">",17)
endif
endwhile

" Cleanup: {{{3
" call Decho("cleanup")
if s:FileReadable(tmpfile)
" call Decho("tmpfile<".tmpfile."> readable,
will now delete it")
  call s:NetrwDelete(tmpfile)
endif
call s:NetrwOptionRestore("w:")

if a:firstline == 1 && a:lastline == line("$")
" restore modifiability; usually equivalent to set nomod
let &mod= mod
endif

" call Dret("netrw#NetWrite")
endfun

" -----
" netrw#NetSource: source a remotely hosted vim script {{{2
" uses NetRead to get a copy of the file into a temporarily file,
" then sources that file,
" then removes that file.
fun! netrw#NetSource(...)
" call Dfunc("netrw#NetSource() a:0=" .a:0)
if a:0 > 0 && a:1 == '?'
" give help
echomsg 'NetSource Usage:'
echomsg ':Nsource dav://machine[:port]/path uses cadaver'
echomsg ':Nsource fetch://machine/path uses fetch'
echomsg ':Nsource ftp://[user@]machine[:port]/path uses ftp autodetects <.netrc>'
echomsg ':Nsource http://[user@]machine/path
uses http wget'
echomsg ':Nsource rcp://[user@]machine/path uses rcp'
echomsg ':Nsource rsync://machine[:port]/path uses rsync'
echomsg ':Nsource scp://[user@]machine[[:#]port]/path uses scp'
echomsg ':Nsource sftp://[user@]machine[[:#]port]/path uses sftp'

```



```

sleep 4
else
let i= 1
while i <= a:0
call netrw#NetRead(3,a:{i})
" call Decho("(netrw#NetSource) s:netread_tmpfile<".s:netrw_tmpfile.">")
if s:FileReadable(s:netrw_tmpfile)
" call Decho("(netrw#NetSource) exe so ".fnameescape(s:netrw_tmpfile))
exe "so ".fnameescape(s:netrw_tmpfile)
" call Decho("(netrw#NetSource) delete("".s:netrw_tmpfile."")")
call delete(s:netrw_tmpfile)
unlet s:netrw_tmpfile
else
call netrw#ErrorMsg(s:ERROR,"unable to source <".a:{i}.">!",48)
endif
let i= i + 1
endwhile
endif
" call Dret("netrw#NetSource")
endfun

" =====
" s:NetrwGetFile: Function
to read temporary file "tfile" with command "readcmd". {{{2
" readcmd == %r : replace buffer with newly read file
" == 0r : read file at top of buffer
" == r : read file after current line
" == t : leave file in temporary form (ie. don't read into buffer)
fun! s:NetrwGetFile(readcmd, tfile, method)
" call Dfunc("NetrwGetFile(readcmd<".a:readcmd.">,tfile<".a:tfile."> method<".a:method.">")

" readcmd=='t': simply do nothing
if a:readcmd == 't'
" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Dret("NetrwGetFile : skip read of <".a:tfile.">")
return
endif

" get name of remote filename (ie. url and all)
let rfile= bufname("%")
" call Decho("rfile<".rfile.">")

if exists("*NetReadFixup")
" for the use of NetReadFixup (not otherwise used internally)
let line2= line("$")
endif

if a:readcmd[0] == '%'

```

```

" get file into buffer
" call Decho("get file into buffer")

" rename the current buffer to the temp file (ie. tfile)
if g:netrw_cygwin
  let tfile= substitute(a:tfile,'/cygdrive/^(.)','\1:;')
else
  let tfile= a:tfile
endif
" call Decho("exe silent! keepalt file ".fnameescape(tfile))
exe "silent! keepalt file ".fnameescape(tfile)

" edit temporary file (ie. read the temporary file in)
if rfile =~ /\.zip$'
" call Decho("handling remote zip file with zip#Browse(tfile<".tfile.">)")
call zip#Browse(tfile)
elseif rfile =~ /\.tar$'
" call Decho("handling remote tar file with tar#Browse(tfile<".tfile.">)")
call tar#Browse(tfile)
elseif rfile =~ /\.tar\.gz'
" call Decho("handling remote gzip-compressed tar file")
call tar#Browse(tfile)
elseif rfile =~ /\.tar\.bz2'
" call Decho("handling remote bz2-compressed tar file")
call tar#Browse(tfile)
else
" call Decho("edit temporary file")
e!
endif

" rename buffer back to remote filename
"
call Decho("exe silent! keepalt file ".fnameescape(rfile))
exe "silent! keepalt file ".fnameescape(rfile)
if a:method == 5
  set ft=html
else
  filetype detect
endif
" call Dredir("renamed buffer back to remote filename<".rfile."> : expand(%<".expand("%")>".expand("% ").">","ls!")
let line1 = 1
let line2 = line("$")

elseif s:FileReadable(a:tfile)
" read file after current line
" call Decho("read file<".a:tfile."> after current line")
let curline = line(".")
let lastline= line("$")

```

```

" call Decho("exe<".a:readcmd." ".fnameescape(v:cmdarg)." ".fnameescape(a:tfile)."> line#".curline)
exe a:readcmd." ".fnameescape(v:cmdarg)." ".fnameescape(a:tfile)
let line1= curline + 1
let line2= line("$") - lastline + 1

else
" not readable
" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Decho("tfile<".a:tfile."> not readable")
call netrw#ErrorMsg(s:WARNING,"file <".a:tfile."> not readable",9)
" call
Dret("NetrwGetFile : tfile<".a:tfile."> not readable")
return
endif

" User-provided (ie. optional) fix-it-up command
if exists("*NetReadFixup")
" call Decho("calling NetReadFixup(method<".a:method."> line1=".line1." line2=".line2."")")
call NetReadFixup(a:method, line1, line2)
" else " Decho
" call Decho("NetReadFixup() not called, doesn't exist (line1=".line1." line2=".line2."")")
endif

if has("gui") && has("menu") && has("gui_running") && &go =~ 'm'
" update the Buffers menu
call s:UpdateBuffersMenu()
endif

" call Decho("readcmd<".a:readcmd."> cmdarg<".v:cmdarg."> tfile<".a:tfile."> readable="s:FileReadable(a:tfile))

" make sure file is being displayed
" redraw!

" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Dret("NetrwGetFile")
endfun

" -----
" s:NetrwMethod: determine method of transfer {{{2
" Input:
" choice = url
" [protocol:]//[userid@]hostname[:port]/[path-to-file]
" Output:
" b:netrw_method= 1: rcp
"           2: ftp + <.netrc>
"           3: ftp + machine, id, password, and [path]filename
"           4: scp
"           5: http (wget)

```

```

"      6: dav
"      7: rsync
"      8: fetch
"      9: sftp
" g:netrw_machine= hostname
" b:netrw_fname = filename
" g:netrw_port = optional port number (for ftp)
" g:netrw_choice = copy of input url (choice)
fun! s:NetrwMethod(choice)
" call Dfunc("NetrwMethod(a:choice<".a:choice.">")

" record current g:netrw_machine, if any
" curmachine used if protocol == ftp and no .netrc
if exists("g:netrw_machine")
    let curmachine= g:netrw_machine
" call Decho("curmachine<".curmachine.">")
else
    let curmachine= "N O T A HOST"
endif

" initialization
let b:netrw_method = 0
let g:netrw_machine = ""
let b:netrw_fname = ""
let g:netrw_port = ""
let g:netrw_choice = a:choice

" Patterns:
" mipf : a:machine a:id password filename Use ftp
" mf : a:machine filename Use ftp + <.netrc> or g:netrw_uid s:netrw_passwd
" ftpurm : ftp://[user@]host[[:#:]port]/filename Use ftp + <.netrc> or g:netrw_uid s:netrw_passwd
" rcpurm : rcp://[user@]host/filename Use rcp
" rcphf : [user@]host:filename Use rcp
" scpurm : scp://[user@]host[[:#:]port]/filename Use scp
" httpurm : http://[user@]host/filename Use wget
" davurm : dav[s]://host[:port]/path Use cadaver/curl
" rsyncurm : rsync://host[:port]/path Use rsync
" fetchurm : fetch://[user@]host[:http]/filename Use
fetch (defaults to ftp, override for http)
" sftpurm : sftp://[user@]host/filename Use scp
let mipf = '^(\S\+)\s+(\S\+)\s+(\S\+)\s+(\S\+)\s$'
let mf = '^(\S\+)\s+(\S\+)\s$'
let ftpurm = '^ftp://\([^\@]\{-}\)\@)\=(\[^#\]\{-}\)\(\[#:]\d\+)\=(\(.*)$'
let rcpurm = '^rcp://\([^\@]\{-}\)\@)\=(\[^]\{-}\)\(\(.*)$'
let rcphf = '^(\([h\w*\])\@)\=(\([h\w*\]):\([^\@]\{-}\)\@)\s$'
let scpurm = '^scp://\([^\#\]\{-}\)\%\(\[#:]\d\+)\)\=(\(.*)$'
let httpurm = '^http://\([^\]\{-}\)\(\(.*)\)=\s$'
let davurm = '^davs\=://\([^\]\{-}\)\(\(.*)\)\([-_\.~[:alnum:]]\+)\s$'

```

```

let rsyncurm = '^rsync://\([^/]\{-}\)\(.*\)|=$'
let fetchurm = '^fetch://\(\([^\@]\{-}\)\@)\(=\([^\#:]\{-}\)\(:http)\)=\(.*)$'
let sftpurm = '^sftp://\([^/]\{-}\)\(.*\)|=$'

" call Decho("determine method:")
" Determine Method
" rcp://user@hostname/...path-to-file
if match(a:choice,rcpurm) == 0
" call Decho("rcp://...")
let b:netrw_method = 1
let userid
    = substitute(a:choice,rcpurm,'\1',"")
let g:netrw_machine = substitute(a:choice,rcpurm,'\2',"")
let b:netrw_fname = substitute(a:choice,rcpurm,'\3',"")
if userid != ""
let g:netrw_uid= userid
endif

" scp://user@hostname/...path-to-file
elseif match(a:choice,scpurm) == 0
" call Decho("scp://...")
let b:netrw_method = 4
let g:netrw_machine = substitute(a:choice,scpurm,'\1',"")
let g:netrw_port = substitute(a:choice,scpurm,'\2',"")
let b:netrw_fname = substitute(a:choice,scpurm,'\3',"")

" http://user@hostname/...path-to-file
elseif match(a:choice,httpurm) == 0
" call Decho("http://...")
let b:netrw_method = 5
let g:netrw_machine= substitute(a:choice,httpurm,'\1',"")
let b:netrw_fname = substitute(a:choice,httpurm,'\2',"")

" dav://hostname[:port]/..path-to-file..
elseif match(a:choice,davurm) == 0
" call Decho("dav://...")
let b:netrw_method= 6
if a:choice =~ '^s'
let g:netrw_machine=
'https://'.substitute(a:choice,davurm,'\1\2',"")
else
let g:netrw_machine= 'http://'.substitute(a:choice,davurm,'\1\2',"")
endif
let b:netrw_fname = substitute(a:choice,davurm,'\3',"")

" rsync://user@hostname/...path-to-file
elseif match(a:choice,rsyncurm) == 0
" call Decho("rsync://...")

```

```

let b:netrw_method = 7
let g:netrw_machine= substitute(a:choice,rsyncurm,'\1',"")
let b:netrw_fname = substitute(a:choice,rsyncurm,'\2',"")

" ftp://[user@]hostname[:#]port/...path-to-file
elseif match(a:choice,ftpurm) == 0
" call Decho("ftp://...")
let userid = substitute(a:choice,ftpurm,'\2',"")
let g:netrw_machine= substitute(a:choice,ftpurm,'\3',"")
let g:netrw_port = substitute(a:choice,ftpurm,'\4',"")
let b:netrw_fname = substitute(a:choice,ftpurm,'\5',"")
" call Decho("g:netrw_machine<"g:netrw_machine.">")
if userid != ""
let g:netrw_uid= userid
endif
if exists("s:netrw_passwd") && curmachine
!= g:netrw_machine
" if there's a change in hostname, require password re-entry
unlet s:netrw_passwd
endif
if exists("g:netrw_uid") && exists("s:netrw_passwd")
let b:netrw_method = 3
else
if s:FileReadable(expand("$HOME/.netrc")) && !g:netrw_ignorenetrc
let b:netrw_method= 2
else
if !exists("g:netrw_uid") || g:netrw_uid == ""
call NetUserPass()
elseif !exists("s:netrw_passwd") || s:netrw_passwd == ""
call NetUserPass(g:netrw_uid)
" else just use current g:netrw_uid and s:netrw_passwd
endif
let b:netrw_method= 3
endif
endif

elseif match(a:choice,fetchurm) == 0
" call Decho("fetch://...")
let b:netrw_method = 8
let g:netrw_userid = substitute(a:choice,fetchurm,'\2',"")
let g:netrw_machine= substitute(a:choice,fetchurm,'\3',"")
let b:netrw_option = substitute(a:choice,fetchurm,'\4',"")
let b:netrw_fname = substitute(a:choice,fetchurm,'\5',"")

" Issue an
ftp : "machine id password [path/]filename"
elseif match(a:choice,mipf) == 0
" call Decho("(ftp) host id pass file")

```

```

let b:netrw_method = 3
let g:netrw_machine = substitute(a:choice,mipf,'\1',"")
let g:netrw_uid = substitute(a:choice,mipf,'\2',"")
let s:netrw_passwd = substitute(a:choice,mipf,'\3',"")
let b:netrw_fname = substitute(a:choice,mipf,'\4',"")

" Issue an ftp: "hostname [path/]filename"
elseif match(a:choice,mf) == 0
" call Decho("(ftp) host file")
if exists("g:netrw_uid") && exists("s:netrw_passwd")
let b:netrw_method = 3
let g:netrw_machine = substitute(a:choice,mf,'\1',"")
let b:netrw_fname = substitute(a:choice,mf,'\2',"")

elseif s:FileReadable(expand("$HOME/.netrc"))
let b:netrw_method = 2
let g:netrw_machine = substitute(a:choice,mf,'\1',"")
let b:netrw_fname = substitute(a:choice,mf,'\2',"")
endif

" sftp://user@hostname/...path-to-file
elseif match(a:choice,sftpurm)
== 0
" call Decho("sftp://...")
let b:netrw_method = 9
let g:netrw_machine= substitute(a:choice,sftpurm,'\1',"")
let b:netrw_fname = substitute(a:choice,sftpurm,'\2',"")

" Issue an rcp: hostname:filename" (this one should be last)
elseif match(a:choice,rcphf) == 0
" call Decho("(rcp) [user@]host:file) rcphf<" .rcphf.">")
let b:netrw_method = 1
let userid = substitute(a:choice,rcphf,'\2',"")
let g:netrw_machine = substitute(a:choice,rcphf,'\3',"")
let b:netrw_fname = substitute(a:choice,rcphf,'\4',"")
" call Decho("\1<'.substitute(a:choice,rcphf,'\1',"").">")
" call Decho("\2<'.substitute(a:choice,rcphf,'\2',"").">")
" call Decho("\3<'.substitute(a:choice,rcphf,'\3',"").">")
" call Decho("\4<'.substitute(a:choice,rcphf,'\4',"").">")
if userid != ""
let g:netrw_uid= userid
endif

else
if !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:WARNING,"cannot determine method (format:
protocol://[user@]hostname[:port]/[path])",45)

```

```

endif
let b:netrw_method = -1
endif

" remove any leading [#] from port number
if g:netrw_port != ""
  let g:netrw_port = substitute(g:netrw_port, '[#:]\+', ',')
endif

" call Decho("a:choice <.a:choice.>")
" call Decho("b:netrw_method <.b:netrw_method.>")
" call Decho("g:netrw_machine<.g:netrw_machine.>")
" call Decho("g:netrw_port <.g:netrw_port.>")
" if exists("g:netrw_uid") "Decho
" call Decho("g:netrw_uid <.g:netrw_uid.>")
" endif "Decho
" if exists("s:netrw_passwd") "Decho
" call Decho("s:netrw_passwd <.s:netrw_passwd.>")
" endif "Decho
" call Decho("b:netrw_fname <.b:netrw_fname.>")
" call Dret("NetrwMethod : b:netrw_method=".b:netrw_method)
endfun

" -----
" NetReadFixup: this sort of function is typically written by the user {{{2
"   to handle extra junk that their system's ftp dumps
"
"   into the transfer. This function is provided as an
"   example and as a fix for a Windows 95 problem: in my
"   experience, win95's ftp always dumped four blank lines
"   at the end of the transfer.
if has("win95") && exists("g:netrw_win95ftp") && g:netrw_win95ftp
fun! NetReadFixup(method, line1, line2)
" call Dfunc("NetReadFixup(method<.a:method.> line1=".a:line1." line2=".a:line2.")")

" sanity checks -- attempt to convert inputs to integers
let method = a:method + 0
let line1 = a:line1 + 0
let line2 = a:line2 + 0
if type(method) != 0 || type(line1) != 0 || type(line2) != 0 || method < 0 || line1 <= 0 || line2 <= 0
" call Dret("NetReadFixup")
return
endif

if method == 3 " ftp (no <.netrc>)
let fourblanklines= line2 - 3
if fourblanklines >= line1
exe "silent ".fourblanklines.", ".line2."g/^\s*$/d"

```



```

endif
endif

" call Dret("NetReadFixup")
endfun
endif

"
-----
" NetUserPass: set username and password for subsequent ftp transfer {{{2
" Usage: :call NetUserPass() -- will prompt for userid and password
" :call NetUserPass("uid") -- will prompt for password
" :call NetUserPass("uid","password") -- sets global userid and password
fun! NetUserPass(...)

" get/set userid
if a:0 == 0
" call Dfunc("NetUserPass(a:0<"a:0.">)")
if !exists("g:netrw_uid") || g:netrw_uid == ""
" via prompt
let g:netrw_uid= input('Enter username: ')
endif
else " from command line
" call Dfunc("NetUserPass(a:1<"a:1.">) {")
let g:netrw_uid= a:1
endif

" get password
if a:0 <= 1 " via prompt
" call Decho("a:0="a:0." case <=1:")
let s:netrw_passwd= inputsecret("Enter Password: ")
else " from command line
" call Decho("a:0="a:0." case >1: a:2<"a:2.">")
let s:netrw_passwd=a:2
endif

" call Dret("NetUserPass")
endfun

" =====
"
Shared Browsing Support: {{{1
" =====

" -----
" s:BrowserMaps: {{{2
fun! s:BrowserMaps(islocal)
" call Dfunc("s:BrowserMaps(islocal="a:islocal.") b:netrw_curdir<"b:netrw_curdir.">")

```

```

if a:islocal
" call Decho("make local maps")
nnoemap <buffer> <silent> <cr> :call
netrw#LocalBrowseCheck(<SID>NetrwBrowseChgDir(1,<SID>NetrwGetWord())<cr>
nnoemap <buffer> <silent> - :exe "norm! 0"<bar>call
netrw#LocalBrowseCheck(<SID>NetrwBrowseChgDir(1,'./'))<cr>
nnoemap <buffer> <silent> a :call <SID>NetrwHide(1)<cr>
nnoemap <buffer> <silent> mb :<c-u>call <SID>NetrwBookHistHandler(0,b:netrw_curdir)<cr>
nnoemap <buffer> <silent> mc :<c-u>call <SID>NetrwMarkFileCopy(1)<cr>
nnoemap <buffer> <silent> md :<c-u>call <SID>NetrwMarkFileDiff(1)<cr>
nnoemap <buffer> <silent> me :<c-u>call <SID>NetrwMarkFileEdit(1)<cr>
nnoemap <buffer> <silent> mf :<c-u>call <SID>NetrwMarkFile(1,<SID>NetrwGetWord())<cr>
nnoemap <buffer> <silent> mg :<c-u>call <SID>NetrwMarkFileGrep(1)<cr>
nnoemap <buffer> <silent> mh :<c-u>call <SID>NetrwMarkHideSfx(1)<cr>
nnoemap <buffer> <silent> mm :<c-u>call <SID>NetrwMarkFileMove(1)<cr>
nnoemap <buffer> <silent> mp :<c-u>call <SID>NetrwMarkFilePrint(1)<cr>
nnoemap <buffer> <silent> mr :<c-u>call <SID>NetrwMarkFileRegexp(1)<cr>
nnoemap <buffer> <silent> ms :<c-u>call <SID>NetrwMarkFileSource(1)<cr>
nnoemap <buffer> <silent> mT :<c-u>call <SID>NetrwMarkFileTag(1)<cr>
nnoemap <buffer> <silent> mt :<c-u>call <SID>NetrwMarkFileTgt(1)<cr>
nnoemap <buffer> <silent> mu :<c-u>call <SID>NetrwUnMarkFile(1)<cr>
nnoemap <buffer> <silent> mx :<c-u>call <SID>NetrwMarkFileExe(1)<cr>
nnoemap <buffer> <silent> mz :<c-u>call <SID>NetrwMarkFileCompress(1)<cr>
nnoemap <buffer> <silent> gb :<c-u>call <SID>NetrwBookHistHandler(1,b:netrw_curdir)<cr>
nnoemap <buffer> <silent> gh :<c-u>call <SID>NetrwHidden(1)<cr>
nnoemap <buffer> <silent> c :exe "keepjumps lcd ".fnameescape(b:netrw_curdir)<cr>
nnoemap <buffer> <silent> C :let g:netrw_chgwin= winnr()<cr>
nnoemap <buffer> <silent> d :call <SID>NetrwMakeDir("")<cr>
nnoemap <buffer> <silent> i :call <SID>NetrwListStyle(1)<cr>
nnoemap <buffer> <silent> o :call <SID>NetrwSplit(3)<cr>
nnoemap <buffer> <silent> O :call <SID>NetrwObtain(1)<cr>
nnoemap <buffer> <silent> p :call
<SID>NetrwPreview(<SID>NetrwBrowseChgDir(1,<SID>NetrwGetWord(),1))<cr>
nnoemap <buffer> <silent> P :call <SID>NetrwPrevWinOpen(1)<cr>
nnoemap <buffer> <silent> qb :<c-u>call <SID>NetrwBookHistHandler(2,b:netrw_curdir)<cr>
nnoemap <buffer> <silent> mB :<c-u>call <SID>NetrwBookHistHandler(6,b:netrw_curdir)<cr>
nnoemap <buffer> <silent> qf :<c-u>call <SID>NetrwFileInfo(1,<SID>NetrwGetWord())<cr>
nnoemap <buffer> <silent> r :let
g:netrw_sort_direction= (g:netrw_sort_direction =~ 'n')? 'r' : 'n'<bar>exe "norm! 0"<bar>call
<SID>NetrwRefresh(1,<SID>NetrwBrowseChgDir(1,'./'))<cr>
nnoemap <buffer> <silent> s :call <SID>NetrwSortStyle(1)<cr>
nnoemap <buffer> <silent> S :call <SID>NetSortSequence(1)<cr>
nnoemap <buffer> <silent> t :call <SID>NetrwSplit(4)<cr>
nnoemap <buffer> <silent> u :<c-u>call <SID>NetrwBookHistHandler(4,expand("%"))<cr>
nnoemap <buffer> <silent> U :<c-u>call <SID>NetrwBookHistHandler(5,expand("%"))<cr>
nnoemap <buffer> <silent> v :call <SID>NetrwSplit(5)<cr>
nnoemap <buffer> <silent> x :call
netrw#NetrwBrowseX(<SID>NetrwBrowseChgDir(1,<SID>NetrwGetWord(),0,0)"<cr>

```

```

nnoemap <buffer> <silent> % :call <SID>NetrwOpenFile(1)<cr>
if !hasmapto('<Plug>NetrwHideEdit')
nmap <buffer> <unique> <c-h> <Plug>NetrwHideEdit
endif
nnoemap <buffer> <silent> <Plug>NetrwHideEdit :call <SID>NetrwHideEdit(1)<cr>
if !hasmapto('<Plug>NetrwRefresh')
nmap <buffer> <unique> <c-l> <Plug>NetrwRefresh
endif
nnoemap <buffer> <silent> <Plug>NetrwRefresh :call
<SID>NetrwRefresh(1,<SID>NetrwBrowseChgDir(1,'./'))<cr>
if s:didstarstar || !mapcheck("<s-down>","n")
nnoemap <buffer> <silent> <s-down> :Nexplore<cr>
endif
if s:didstarstar || !mapcheck("<s-up>","n")
nnoemap <buffer> <silent> <s-up> :Pexplore<cr>
endif
let mapsafecurdir = escape(b:netrw_curdir, s:netrw_map_escape)
if g:netrw_mousemaps == 1
nnoemap <buffer> <silent> <leftmouse> <leftmouse>:call <SID>NetrwLeftmouse(1)<cr>
nnoemap <buffer> <silent> <middlemouse> <leftmouse>:call <SID>NetrwPrevWinOpen(1)<cr>
nnoemap <buffer> <silent> <s-leftmouse> <leftmouse>:call
<SID>NetrwMarkFile(1,<SID>NetrwGetWord())<cr>
exe 'nnoemap <buffer> <silent> <rightmouse> <leftmouse>:call <SID>NetrwLocalRm(".mapsafecurdir.")<cr>'
exe 'vnoemap <buffer> <silent> <rightmouse> <leftmouse>:call <SID>NetrwLocalRm(".mapsafecurdir.")<cr>'
endif
exe 'nnoemap <buffer> <silent> <del> :call <SID>NetrwLocalRm(".mapsafecurdir.")<cr>'
exe 'vnoemap <buffer> <silent> <del> :call <SID>NetrwLocalRm(".mapsafecurdir.")<cr>'
exe 'nnoemap <buffer> <silent> D :call <SID>NetrwLocalRm(".mapsafecurdir.")<cr>'
exe 'vnoemap <buffer> <silent> D :call <SID>NetrwLocalRm(".mapsafecurdir.")<cr>'
exe 'nnoemap <buffer> <silent> R :call <SID>NetrwLocalRename(".mapsafecurdir.")<cr>'
exe 'vnoemap <buffer> <silent> R :call <SID>NetrwLocalRename(".mapsafecurdir.")<cr>'
exe 'nnoemap <buffer> <silent> <Leader>m :call <SID>NetrwMakeDir("")<cr>'
nnoemap <buffer> <F1> :he netrw-quickhelp<cr>

else " remote
" call Decho("make remote maps")
call s:RemotePathAnalysis(b:netrw_curdir)
nnoemap <buffer> <silent> <cr> :call
<SID>NetrwBrowse(0,<SID>NetrwBrowseChgDir(0,<SID>NetrwGetWord()))<cr>
nnoemap <buffer> <silent> <c-l> :call <SID>NetrwRefresh(0,<SID>NetrwBrowseChgDir(0,'./'))<cr>
nnoemap <buffer> <silent> - :exe "norm! 0"<bar>call
<SID>NetrwBrowse(0,<SID>NetrwBrowseChgDir(0,'./'))<cr>
nnoemap <buffer> <silent> a :call <SID>NetrwHide(0)<cr>
nnoemap <buffer> <silent> mb :<c-u>call <SID>NetrwBookHistHandler(0,b:netrw_curdir)<cr>
nnoemap <buffer> <silent> mc :<c-u>call <SID>NetrwMarkFileCopy(0)<cr>
nnoemap <buffer> <silent> md :<c-u>call <SID>NetrwMarkFileDiff(0)<cr>
nnoemap <buffer> <silent> me :<c-u>call <SID>NetrwMarkFileEdit(0)<cr>
nnoemap <buffer> <silent> mf :<c-u>call <SID>NetrwMarkFile(0,<SID>NetrwGetWord())<cr>

```

```

nnoemap <buffer> <silent> mg :<c-u>call <SID>NetrwMarkFileGrep(0)<cr>
nnoemap <buffer> <silent> mh :<c-u>call <SID>NetrwMarkHideSfx(0)<cr>
nnoemap <buffer> <silent> mm :<c-u>call <SID>NetrwMarkFileMove(0)<cr>
nnoemap <buffer> <silent> mp :<c-u>call <SID>NetrwMarkFilePrint(0)<cr>
nnoemap <buffer> <silent> mr :<c-u>call <SID>NetrwMarkFileRegexp(0)<cr>
nnoemap <buffer> <silent>
ms :<c-u>call <SID>NetrwMarkFileSource(0)<cr>
nnoemap <buffer> <silent> mT :<c-u>call <SID>NetrwMarkFileTag(0)<cr>
nnoemap <buffer> <silent> mt :<c-u>call <SID>NetrwMarkFileTgt(0)<cr>
nnoemap <buffer> <silent> mu :<c-u>call <SID>NetrwUnMarkFile(0)<cr>
nnoemap <buffer> <silent> mx :<c-u>call <SID>NetrwMarkFileExe(0)<cr>
nnoemap <buffer> <silent> mz :<c-u>call <SID>NetrwMarkFileCompress(0)<cr>
nnoemap <buffer> <silent> gb :<c-u>call <SID>NetrwBookHistHandler(1,b:netrw_cur)<cr>
nnoemap <buffer> <silent> gh :<c-u>call <SID>NetrwHidden(0)<cr>
nnoemap <buffer> <silent> C :let g:netrw_chgwin= winnr()<cr>
nnoemap <buffer> <silent> i :call <SID>NetrwListStyle(0)<cr>
nnoemap <buffer> <silent> o :call <SID>NetrwSplit(0)<cr>
nnoemap <buffer> <silent> O :call <SID>NetrwObtain(0)<cr>
nnoemap <buffer> <silent> p :call
<SID>NetrwPreview(<SID>NetrwBrowseChgDir(1,<SID>NetrwGetWord(),1))<cr>
nnoemap <buffer> <silent> P :call <SID>NetrwPrevWinOpen(0)<cr>
nnoemap <buffer> <silent> qb :<c-u>call <SID>NetrwBookHistHandler(2,b:netrw_curdir)<cr>
nnoemap <buffer> <silent> mB :<c-u>call <SID>NetrwBookHistHandler(6,b:netrw_curdir)<cr>
nnoemap <buffer> <silent> qf :<c-u>call <SID>NetrwFileInfo(0,<SID>NetrwGetWord())<cr>
nnoemap <buffer> <silent> r :let g:netrw_sort_direction= (g:netrw_sort_direction =~ 'n')? 'r' : 'n'<bar>exe "norm!
0"<bar>call <SID>NetrwBrowse(0,<SID>NetrwBrowseChgDir(0,'/'))<cr>
nnoemap <buffer> <silent> s :call <SID>NetrwSortStyle(0)<cr>
nnoemap <buffer> <silent> S :call <SID>NetSortSequence(0)<cr>
nnoemap <buffer> <silent> t :call <SID>NetrwSplit(1)<cr>
nnoemap <buffer> <silent> u :<c-u>call <SID>NetrwBookHistHandler(4,b:netrw_curdir)<cr>
nnoemap <buffer> <silent> U :<c-u>call <SID>NetrwBookHistHandler(5,b:netrw_curdir)<cr>
nnoemap <buffer> <silent> v :call <SID>NetrwSplit(2)<cr>
nnoemap <buffer> <silent> x :call
netrw#NetrwBrowseX(<SID>NetrwBrowseChgDir(0,<SID>NetrwGetWord()),1)<cr>
nnoemap <buffer> <silent> % :call <SID>NetrwOpenFile(0)<cr>
if !hasmapto('<Plug>NetrwHideEdit')
nmap <buffer> <c-h> <Plug>NetrwHideEdit
endif
nnoemap <buffer> <silent> <Plug>NetrwHideEdit :call <SID>NetrwHideEdit(0)<cr>
if !hasmapto('<Plug>NetrwRefresh')
nmap <buffer> <c-l> <Plug>NetrwRefresh
endif

let mapsafepath = escape(s:path, s:netrw_map_escape)
let mapsafeusermach = escape(s:user.s:machine, s:netrw_map_escape)

nnoemap <buffer> <silent> <Plug>NetrwRefresh :call
<SID>NetrwRefresh(0,<SID>NetrwBrowseChgDir(0,'/'))<cr>

```

```

if g:netrw_mousemaps == 1
  noremap <buffer> <silent> <leftmouse> <leftmouse>:call <SID>NetrwLeftmouse(0)<cr>
  noremap <buffer> <silent> <middlemouse> <leftmouse>:call <SID>NetrwPrevWinOpen(0)<cr>
  noremap <buffer> <silent> <s-leftmouse> <leftmouse>:call
<SID>NetrwMarkFile(0,<SID>NetrwGetWord())<cr>
  exe 'noremap <buffer> <silent> <rightmouse>
<leftmouse>:call <SID>NetrwRemoteRm(".mapsafeusermach.", ".mapsafepath.")<cr>'
  exe 'vnoremap <buffer> <silent> <rightmouse> <leftmouse>:call
<SID>NetrwRemoteRm(".mapsafeusermach.", ".mapsafepath.")<cr>'
endif
exe 'noremap <buffer> <silent> <del> :call <SID>NetrwRemoteRm(".mapsafeusermach.", ".mapsafepath.")<cr>'
exe 'vnoremap <buffer> <silent> <del> :call <SID>NetrwRemoteRm(".mapsafeusermach.", ".mapsafepath.")<cr>'
exe 'noremap <buffer> <silent> d :call <SID>NetrwMakeDir(".mapsafeusermach.")<cr>'
exe 'noremap <buffer> <silent> D :call <SID>NetrwRemoteRm(".mapsafeusermach.", ".mapsafepath.")<cr>'
exe 'vnoremap <buffer> <silent> D :call <SID>NetrwRemoteRm(".mapsafeusermach.", ".mapsafepath.")<cr>'
exe 'noremap <buffer> <silent> R :call <SID>NetrwRemoteRename(".mapsafeusermach.", ".mapsafepath.")<cr>'
exe 'vnoremap <buffer> <silent> R :call <SID>NetrwRemoteRename(".mapsafeusermach.", ".mapsafepath.")<cr>'
noremap
<buffer> <F1> :he netrw-quickhelp<cr>
endif
call s:SetRexDir(a:islocal,b:netrw_curdir)
" call Dret("s:BrowserMaps")
endfun

" -----
" s:ExplorePatHls: converts an Explore pattern into a regular expression search pattern {{{2
fun! s:ExplorePatHls(pattern)
" call Dfunc("s:ExplorePatHls(pattern<"a:pattern.">)")
let repat= substitute(a:pattern,'^**\{1,2}',",")
" call Decho("repat<".repat.">")
let repat= escape(repat,'[.\|]')
" call Decho("repat<".repat.">")
let repat= '\<'.substitute(repat,'*',"\(\|S\|+ \|)*\|S\|+', 'g').'\>'
" call Dret("s:ExplorePatHls repat<".repat.">")
return repat
endfun

" -----
" s:NetrwBookHistHandler: {{{2
" 0: (user: <mb>) bookmark current directory
" 1: (user: <gb>) change to the bookmarked directory
" 2: (user: <qb>) list bookmarks
" 3: (browsing) record current
directory history
" 4: (user: <u>) go up (previous) bookmark
" 5: (user: <U>) go down (next) bookmark
" 6: (user: <mB>) delete bookmark
fun! s:NetrwBookHistHandler(chg,curdir)

```

```

" call Dfunc("NetrwBookHistHandler(chg=".a:chg." curdir<".a:curdir.">) cnt=".v:count."
histcnt=".g:netrw_dirhist_cnt." histmax=".g:netrw_dirhistmax)

if a:chg == 0
" bookmark the current directory
" call Decho("(user: <b>) bookmark the current directory")
if !exists("g:netrw_bookmarklist")
let g:netrw_bookmarklist= []
endif
if index(g:netrw_bookmarklist,a:curdir) == -1
" curdir not currently in g:netrw_bookmarklist, so include it
call add(g:netrw_bookmarklist,a:curdir)
call sort(g:netrw_bookmarklist)
endif
echo "bookmarked the current directory"

elseif a:chg == 1
" change to the bookmarked directory
" call Decho("(user: <.v:count."mb>) change to the bookmarked directory")
if exists("g:netrw_bookmarklist[v:count-1]")
exe "e ".fnameescape(g:netrw_bookmarklist[v:count-1])
else
echomsg "Sorry, bookmark#" .v:count." doesn't exist!"
endif

elseif a:chg == 2
" redraw!
let didwork= 0
" list user's bookmarks
" call Decho("(user: <q>) list user's bookmarks")
if exists("g:netrw_bookmarklist")
" call Decho('list '.len(g:netrw_bookmarklist).' bookmarks')
let cnt= 1
for bmd in g:netrw_bookmarklist
" call Decho("Netrw Bookmark#" .cnt.": ".g:netrw_bookmarklist[cnt-1])
echo "Netrw Bookmark#" .cnt.": ".g:netrw_bookmarklist[cnt-1]
let didwork = 1
let cnt = cnt + 1
endfor
endif

" list directory history
let cnt = g:netrw_dirhist_cnt
let first = 1
let histcnt = 0
while ( first || cnt != g:netrw_dirhist_cnt )
" call Decho("first=".first." cnt=".cnt." dirhist_cnt=".g:netrw_dirhist_cnt)
let histcnt= histcnt + 1

```

```

if exists("g:netrw_dirhist_{cnt}")
"  call Decho("Netrw History#.histcnt.": ".g:netrw_dirhist_{cnt}")
  echo "Netrw History#.histcnt.": ".g:netrw_dirhist_{cnt}"
  let didwork= 1
endif
let first = 0
let cnt = ( cnt - 1 ) % g:netrw_dirhistmax
if cnt < 0
  let cnt= cnt + g:netrw_dirhistmax
endif
endwhile
if didwork
  call inputsave()|call input("Press <cr> to continue")|call inputrestore()
endif

elseif a:chg == 3
" saves most recently visited directories (when they differ)
"  call Decho("(browsing) record curdir history")
  if !exists("g:netrw_dirhist_cnt") || !exists("g:netrw_dirhist_{g:netrw_dirhist_cnt}") ||
g:netrw_dirhist_{g:netrw_dirhist_cnt} != a:curdir
    let g:netrw_dirhist_cnt = ( g:netrw_dirhist_cnt + 1 ) % g:netrw_dirhistmax
    let g:netrw_dirhist_{g:netrw_dirhist_cnt} = a:curdir
"  call Decho("save dirhist#.g:netrw_dirhist_cnt.<"g:netrw_dirhist_{g:netrw_dirhist_cnt}.>")
endif

elseif a:chg == 4
" u: change to the previous directory stored on the history
list
"  call Decho("(user: <u>) chg to prev dir from history")
let g:netrw_dirhist_cnt= ( g:netrw_dirhist_cnt - 1 ) % g:netrw_dirhistmax
if g:netrw_dirhist_cnt < 0
  let g:netrw_dirhist_cnt= g:netrw_dirhist_cnt + g:netrw_dirhistmax
endif
if exists("g:netrw_dirhist_{g:netrw_dirhist_cnt}")
"  call Decho("changedir u#"g:netrw_dirhist_cnt.<"g:netrw_dirhist_{g:netrw_dirhist_cnt}.>")
if exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST && exists("b:netrw_curdir")
  setlocal ma noro
"  call Decho("setlocal ma noro")
  %d
  setlocal nomod
"  call Decho("setlocal nomod")
endif
"  "  call Decho("exe e! ".fnameescape(g:netrw_dirhist_{g:netrw_dirhist_cnt}))
exe "e! ".fnameescape(g:netrw_dirhist_{g:netrw_dirhist_cnt})
else
  let g:netrw_dirhist_cnt= ( g:netrw_dirhist_cnt + 1 ) % g:netrw_dirhistmax
  echo "Sorry, no predecessor directory exists yet"
endif

```

```

elseif a:chg == 5
" U: change to the
subsequent directory stored on the history list
" call Decho("(user: <U>) chg to next dir from history")
let g:netrw_dirhist_cnt= ( g:netrw_dirhist_cnt + 1 ) % g:netrw_dirhistmax
if exists("g:netrw_dirhist_{g:netrw_dirhist_cnt}")
" call Decho("changedir U#".g:netrw_dirhist_cnt."<".g:netrw_dirhist_{g:netrw_dirhist_cnt}.">")
if exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST && exists("b:netrw_curdir")
setlocal ma noro
" call Decho("setlocal ma noro")
%d
" call Decho("removed all lines from buffer (%d)")
setlocal nomod
" call Decho("setlocal nomod")
endif
" call Decho("exe e! ".fnameescape(g:netrw_dirhist_{g:netrw_dirhist_cnt}))
exe "e! ".fnameescape(g:netrw_dirhist_{g:netrw_dirhist_cnt})
else
let g:netrw_dirhist_cnt= ( g:netrw_dirhist_cnt - 1 ) % g:netrw_dirhistmax
if g:netrw_dirhist_cnt < 0
let g:netrw_dirhist_cnt= g:netrw_dirhist_cnt + g:netrw_dirhistmax
endif
echo "Sorry,
no successor directory exists yet"
endif

elseif a:chg == 6
" delete the v:count'th bookmark
" call Decho("delete bookmark#".v:count."<".g:netrw_bookmarklist[v:count-1].">")
let savefile= s:NetrwHome()."/.netrwbook"
if filereadable(savefile)
call s:NetrwBookHistSave() " done here to merge bookmarks first
call delete(savefile)
endif
call remove(g:netrw_bookmarklist,v:count-1)
endif
call s:NetrwBookmarkMenu()
" call Dret("NetrwBookHistHandler")
endfun

" -----
" s:NetrwBookHistRead: this function reads bookmarks and history {{{2
"         Sister function: s:NetrwBookHistSave()
fun! s:NetrwBookHistRead()
" call Dfunc("s:NetrwBookHistRead()")
if !exists("s:netrw_initbookhist")
let savefile= s:NetrwHome()."/.netrwbook"

```



```

if filereadable(savefile)
" call Decho("sourcing .netrwbook")
  exe "so ".savefile
endif
let savefile= s:NetrwHome()."/.netrwhist"
if filereadable(savefile)
" call Decho("sourcing .netrwhist")
  exe "so ".savefile
endif
let s:netrw_initbookhist= 1
au VimLeave * call s:NetrwBookHistSave()
endif
" call Dret("s:NetrwBookHistRead")
endfun

" -----
" s:NetrwBookHistSave: this function saves bookmarks and history {{{2
"       Sister function: s:NetrwBookHistRead()
"       I used to do this via viminfo but that appears to
"       be unreliable for long-term storage
"       COMBAK: does $HOME work under windows???
fun! s:NetrwBookHistSave()
" call Dfunc("s:NetrwBookHistSave() dirhistmax=".g:netrw_dirhistmax)
let savefile= s:NetrwHome()."/.netrwhist"
lsplit
enew
setlocal noswf

" save .netrwhist -- no attempt to merge
file .netrwhist
call setline(1,"let g:netrw_dirhistmax =" .g:netrw_dirhistmax)
call setline(2,"let g:netrw_dirhist_cnt
=" .g:netrw_dirhist_cnt)
let lastline = line("$")
let cnt    = 1
while cnt <= g:netrw_dirhist_cnt
  call setline((cnt+lastline),'let g:netrw_dirhist_'.cnt."=" .g:netrw_dirhist_{cnt}. ""')
  let cnt= cnt + 1
endwhile
exe "silent! w! ".savefile
%d

if exists("g:netrw_bookmarklist") && g:netrw_bookmarklist != []
" merge and write .netrwbook
let savefile= s:NetrwHome()."/.netrwbook"

if filereadable(savefile)
  let booklist= deepcopy(g:netrw_bookmarklist)

```

```

exe "silent so ".savefile
for bdm in booklist
  if index(g:netrw_bookmarklist,bdm) == -1
    call add(g:netrw_bookmarklist,bdm)
  endif
endfor
call sort(g:netrw_bookmarklist)
exe "silent! w! ".savefile
endif

" construct and save .netrwbook
call setline(1,"let g:netrw_bookmarklist= ".string(g:netrw_bookmarklist))
exe "silent! w! ".savefile
endif
let bgone= bufnr("%")
q!
exe bgone."bwipe!"

" call Dret("s:NetrwBookHistSave")
endfun

"
-----
" s:NetrwBrowse: This function uses the command in g:netrw_list_cmd to provide a {{{2
" list of the contents of a local or remote directory. It is assumed that the
" g:netrw_list_cmd has a string, USEPORT HOSTNAME, that needs to be substituted
" with the requested remote hostname first.
fun! s:NetrwBrowse(islocal,dirname)
  if !exists("w:netrw_liststyle")|let w:netrw_liststyle= g:netrw_liststyle|endif
  " call Dfunc("s:NetrwBrowse(islocal=".a:islocal." dirname<".a:dirname.">) liststyle=".w:netrw_liststyle."
  ".g:loaded_netrw." buf#" .bufnr("%")."<".bufname("%").">")
  " call Decho("tab#" .tabpagenr()." win#" .winnr())
  " call Dredir("ls!")
  if !exists("s:netrw_initbookhist")
    call s:NetrwBookHistRead()
  endif

  if exists("s:netrw_skipbrowse")
    unlet s:netrw_skipbrowse
  " call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
  " call Dret("s:NetrwBrowse : s:netrw_skipbrowse=" .s:netrw_skipbrowse)
  return
  endif
  if !exists("shellescape")
    call netrw#ErrorMsg(s:ERROR,"netrw can't run -- your vim is missing shellescape()",69)
  " call Dret("s:NetrwBrowse : missing shellescape()")
  return
  endif
endfun

```

```

if !exists("*fnameescape")
  call netrw#ErrorMsg(s:ERROR,"netrw can't run -- your vim is missing fnameescape()",70)
"  call Dret("s:NetrwBrowse : missing fnameescape()")
  return
endif

call s:NetrwOptionSave("w:")
call s:NetrwSafeOptions()

" re-instate any marked files
if exists("s:netrwmarkfilelist_{bufnr('%')}")
"  call Decho("clearing marked files")
  exe "2match netrwMarkFile /".s:netrwmarkfilemtch_{bufnr("%")}. "/"
endif

if a:islocal && exists("w:netrw_acdkeep") && w:netrw_acdkeep
"  call Decho("handle w:netrw_acdkeep:")
"  call Decho("keepjumps lcd '.fnameescape(a:dirname)." (due to w:netrw_acdkeep="w:netrw_acdkeep." -
acd=".&acd.")")
  exe 'keepjumps lcd '.fnameescape(a:dirname)
"  call
Decho("getcwd<".getcwd().">")

elseif !a:islocal && a:dirname !~ '[V]$\$' && a:dirname !~ '^"'
" looks like a regular file, attempt transfer
"  call Decho("attempt transfer as regular file<".a:dirname.">")

" remove any filetype indicator from end of dirname, except for the {{{3
" "this is a directory" indicator (/).
" There shouldn't be one of those here, anyway.
let path= substitute(a:dirname,['*=@]|\r\=$',' ','e')
"  call Decho("new path<".path.">")
call s:RemotePathAnalysis(a:dirname)

" remote-read the requested file into current buffer {{{3
mark '
call s:NetrwEnew(a:dirname)
setlocal ma noro
"  call Decho("setlocal ma noro")
let b:netrw_curdir= a:dirname
"  call Decho("exe silent! keepalt file ".fnameescape(s:method."/".s:user.s:machine."/".s:path)." (bt=".&bt.")")
exe "silent! keepalt file ".fnameescape(s:method."/".s:user.s:machine."/".s:path)
exe "silent keepalt doau BufReadPre ".fnameescape(s:fname)
silent
call netrw#NetRead(2,s:method."/".s:user.s:machine."/".s:path)
if s:path !~ '.tar.bz2\$' && s:path !~ '.tar.gz'
" netrw.vim and tar.vim have already handled decompression of the tarball; avoiding gzip.vim error
exe "silent keepalt doau BufReadPost ".fnameescape(s:fname)

```

```

endif

" save certain window-oriented variables into buffer-oriented variables {{{3
call s:SetBufWinVars()
call s:NetrwOptionRestore("w:")
setlocal ma nomod

" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Dret("s:NetrwBrowse : file<".s:fname.">")
return
endif

" use buffer-oriented WinVars if buffer ones exist but window ones don't {{{3
call s:UseBufWinVars()

" set up some variables {{{3
let b:netrw_browser_active = 1
let dirname          = a:dirname
let s:last_sort_by   = g:netrw_sort_by

" set up menu {{{3
call s:NetrwMenu(1)

" set up buffer {{{3
let reusing= s:NetrwGetBuffer(a:islocal,dirname)
" maintain markfile highlighting
if exists("s:netrwmarkfilemtch_{bufnr('%')}") && s:netrwmarkfilemtch_{bufnr("%")} != ""
" call Decho("bufnr(%)" . bufnr('%'))
" call Decho("exe 2match netrwMarkFile /".s:netrwmarkfilemtch_{bufnr("%")}."/")
exe "2match netrwMarkFile /".s:netrwmarkfilemtch_{bufnr("%")}."/")
else
" call Decho("2match none")
2match none
endif
if reusing
call s:NetrwOptionRestore("w:")
setlocal noma nomod nowrap
" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Dret("s:NetrwBrowse : re-using buffer")
return
endif

" set b:netrw_curdir to the new directory name {{{3
" call Decho("set b:netrw_curdir to the new directory name:")
let b:netrw_curdir= dirname
if b:netrw_curdir =~ '[\\\]'$
let b:netrw_curdir= substitute(b:netrw_curdir,'[\\\]$',','e')
endif

```

```

if b:netrw_curdir == "
  if has("amiga")
    " On the Amiga, the empty string connotes the current directory

let b:netrw_curdir= getcwd()
else
  " under unix, when the root directory is encountered, the result
  " from the preceding substitute is an empty string.
  let b:netrw_curdir= '/'
endif
endif
if !a:islocal && b:netrw_curdir !~ '/'$
  let b:netrw_curdir= b:netrw_curdir.'/'
endif
" call Decho("b:netrw_curdir<" .b:netrw_curdir.">")

" -----
" (local only) {{{3
" -----
if a:islocal
" call Decho("local only:")

" Set up ShellCmdPost handling. Append current buffer to browselist
call s:LocalFastBrowser()

" handle g:netrw_keepdir: set vim's current directory to netrw's notion of the current directory {{{3
if !g:netrw_keepdir
" call Decho("handle g:netrw_keepdir=" .g:netrw_keepdir.": getcwd<".getcwd()."> acd=".&acd)
" call Decho("l:acd".(exists("&l:acd")? "=".&l:acd : " doesn't exist"))
if !exists("&l:acd") || !&l:acd
" call Decho('exe keepjumps lcd '.fnameescape(b:netrw_curdir))
try
  exe
'keepjumps lcd '.fnameescape(b:netrw_curdir)
catch /^Vim\%((\a\+)\)=:E472/
  call netrw#ErrorMsg(s:ERROR,"unable to change directory to <" .b:netrw_curdir."> (permissions?)",61)
  if exists("w:netrw_prvdir")
    let b:netrw_curdir= w:netrw_prvdir
  else
    call s:NetrwOptionRestore("w:")
    setlocal noma nomod nowrap
    let b:netrw_curdir= dirname
" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Dret("s:NetrwBrowse : reusing buffer#".(exists("bufnum")? bufnum : 'N/A')." <".dirname.">
getcwd<".getcwd().">")
  return
endif
endtry

```

```

endif
endif

" -----
" remote handling: {{{3
" -----
else
" call Decho("remote only:")

" analyze a:dirname and g:netrw_list_cmd {{{4
" call Decho("b:netrw_curdir<".(exists("b:netrw_curdir")? b:netrw_curdir : "doesn't exist").">
a:dirname<".a:dirname.">")
if a:dirname =~
"^NetrwTreeListing\>"
let dirname= b:netrw_curdir
" call Decho("(dirname was ".a:dirname.") dirname<".dirname.">")
elseif exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST && exists("b:netrw_curdir")
let dirname= substitute(b:netrw_curdir, '\\', '/', 'g')
if dirname !~ '/'$'
let dirname= dirname.'/'
endif
let b:netrw_curdir = dirname
" call Decho("(liststyle is TREELIST) dirname<".dirname.">")
else
let dirname = substitute(a:dirname, '\\', '/', 'g')
" call Decho("(normal) dirname<".dirname.">")
endif

let dirpat = '^(\w\{-}\):/\w\{+}@)=\([^/]\+\)\^(.*)$'
if dirname !~ dirpat
if !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:ERROR,"netrw doesn't understand your dirname<".dirname.">",20)
endif
call s:NetrwOptionRestore("w:")
setlocal noma nomod nowrap
" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Dret("s:NetrwBrowse : badly formatted dirname<".dirname.">")
return
endif
let b:netrw_curdir= dirname
" call Decho("b:netrw_curdir<".b:netrw_curdir."> (remote)")
endif " (additional remote handling)

" -----
" Directory Listing: {{{3
" -----
call s:BrowserMaps(a:islocal)
call s:PerformListing(a:islocal)

```

```

" The s:LocalBrowseShellCmdRefresh() function is called by an autocmd
" installed by s:LocalFastBrowser() when g:netrw_fastbrowse <= 1 (ie. slow, medium speed).
" However, s:NetrwBrowse() causes the ShellCmdPost event itself to fire once; setting
" the variable below avoids that second refresh of the screen. The s:LocalBrowseShellCmdRefresh()
" function gets called due to that autocmd; it notices that the following variable is set
" and skips the refresh and sets s:locbrowseshellcmd to zero. Oct 13, 2008
let s:locbrowseshellcmd= 1

```

```

" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Dret("s:NetrwBrowse : did
PerformListing")
return
endfun

```

```

" -----
" s:NetrwFileInfo: supports qf (query for file information) {{{2
fun! s:NetrwFileInfo(islocal,fname)
" call Dfunc("s:NetrwFileInfo(islocal=".a:islocal." fname<".a:fname.">")
if a:islocal
if (has("unix") || has("macunix")) && executable("/bin/lis")
if exists("b:netrw_curdir")
" call Decho('using ls with b:netrw_curdir<'.b:netrw_curdir.>')
if b:netrw_curdir =~ '/'$
echo system("/bin/lis -lsad ".shellescape(b:netrw_curdir.a:fname))
else
echo system("/bin/lis -lsad ".shellescape(b:netrw_curdir."/".a:fname))
endif
else
" call Decho('using ls '.a:fname." using cwd<".getcwd().">")
echo system("/bin/lis -lsad ".shellescape(a:fname))
endif
else
" use vim functions to return information about file below cursor
" call Decho("using vim functions to query for file info")
if !isdirectory(a:fname) && !filereadable(a:fname)
&& a:fname =~ '.*@/'
let fname= substitute(a:fname,".$","","")
else
let fname= a:fname
endif
let t = getftime(fname)
let sz = getfsize(fname)
echo a:fname.: ".sz." ".strftime(g:netrw_timefmt,getftime(fname))
" call Decho(fname.: ".sz." ".strftime(g:netrw_timefmt,getftime(fname)))
endif
else
echo "sorry, \"qf\" not supported yet for remote files"

```

```

endif
" call Dret("s:NetrwFileInfo")
endfun

" -----
" s:NetrwGetBuffer: {{{2
" returns 0=cleared buffer
"     1=re-used buffer
fun! s:NetrwGetBuffer(islocal,dirname)
" call Dfunc("s:NetrwGetBuffer(islocal=".a:islocal." dirname<".a:dirname.">) liststyle=".g:netrw_liststyle)
let dirname= a:dirname

" re-use buffer if possible {{{3
" call Decho("--re-use a buffer if possible--")
if exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST
" find NetrwTreeList buffer
if there is one
if exists("w:netrw_treebufnr") && w:netrw_treebufnr > 0
" call Decho(" re-use w:netrw_treebufnr=".w:netrw_treebufnr)
let eikeep= &ei
set ei=all
exe "b ".w:netrw_treebufnr
let &ei= eikeep
" call Dret("s:NetrwGetBuffer : bufnum#".w:netrw_treebufnr."<NetrwTreeListing>")
return
endif
let bufnum= -1
" call Decho(" liststyle=TREE but w:netrw_treebufnr doesn't exist")

else
" find buffer number of buffer named precisely the same as dirname {{{3
" call Decho("--find buffer numnber of buffer named precisely the same as dirname--")
" call Dredir("ls!")

" get dirname and associated buffer number
let bufnum = bufnr(escape(dirname,'\'))
" call Decho(" find buffer<".dirname.">'s number ")
" call Decho(" bufnr(dirname<".escape(dirname,'\').">)"=".bufnum)

if bufnum < 0 && dirname !~ '/'$
" trying appending a trailing /
" call Decho(" try appending a trailing / to dirname<".dirname.">")
let bufnum= bufnr(escape(dirname.'/','\'))
if bufnum > 0
let dirname= dirname.'/'
endif
endif
endif

```



```

if bufnum < 0 && dirname =~ '/'$'
  " trying removing a trailing /
" call Decho(" try removing a trailing / from dirname<".dirname.">")
let bufnum= bufnr(escape(substitute(dirname,'/','$',''),'\'))
if bufnum > 0
  let dirname= substitute(dirname,'/','$','')
endif
endif

" call Decho(" findbuf1: bufnum=bufnr("".dirname."")=".bufnum." bufname("".bufnum."<".bufname(bufnum).">
(initial)")
" note: !~ was used just below, but that means using ../ to go back would match (ie. abc/def/ and abc/ matches)
if bufnum > 0 && bufname(bufnum) != dirname && bufname(bufnum) != '.'
  " handle approximate matches
" call Decho(" handling approx match: bufnum#%d<".bufname(bufnum)."> approx=dirname<".dirname.">")
let ibuf = 1
let buflast = bufnr("$")
" call Decho(" findbuf2: buflast=".buflast)
while ibuf <= buflast
  let bname= substitute(bufname(ibuf),'\./','g')
  let bname= substitute(bname,'\zs/$','')
" call Decho(" findbuf3: dirname<".dirname."> bufname("".ibuf."")<".bname.">")
if bname != " && dirname =~ '/'.bname.'\^=$' | break | endif
if bname =~ '^'.dirname.'\^=$' | break | endif
if dirname =~ '^'.bname.'/$' | break | endif
let ibuf= ibuf + 1
endwhile
if ibuf > buflast
  let bufnum= -1
else
  let bufnum= ibuf
endif
" call Decho(" findbuf4: bufnum="".bufnum." (ibuf="".ibuf." buflast="".buflast."")
endif
endif

" get anew buffer and name it -or- re-use buffer {{{3
" call Decho("--get anew buffer and name it OR re-use buffer-- (bufnum="".bufnum."")")
mark '
if bufnum < 0 || !bufexists(bufnum)
  call s:NetrwEnew(dirname)
" call Decho(" got anew buffer#".bufnr("%")." (altbuf<".expand("#").">")
" name the buffer
if exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST
  " Got anew buffer; transform into a NetrwTreeListing
" call Decho("--transform anew buffer#".bufnr("%")." into a NetrwTreeListing --")
if !exists("s:netrw_treelistnum")
  let s:netrw_treelistnum= 1

```

```

else
  let s:netrw_treelistnum= s:netrw_treelistnum + 1
endif
let w:netrw_treebufnr= bufnr("% ")
" call Decho(" exe silent! keepalt file NetrwTreeListing ".fnameescape(s:netrw_treelistnum))
exe 'silent! keepalt file NetrwTreeListing\' '.fnameescape(s:netrw_treelistnum)
nnoremap <silent> <buffer> [ :silent call <SID>TreeListMove(['<cr>
nnoremap <silent> <buffer> ] :silent call <SID>TreeListMove(']')<cr>
nnoremap <silent> <buffer> [[ :silent call <SID>TreeListMove(['<cr>
nnoremap <silent> <buffer> ]] :silent call <SID>TreeListMove(']')<cr>
" call Decho(" tree listing#".s:netrw_treelistnum." bufnr=".w:netrw_treebufnr)
else
" let v:errmsg= "" " Decho
let escdirname= fnameescape(dirname)
" call
Decho(" errmsg<".v:errmsg."> bufnr(".escdirname.")=".bufnr(escdirname)."<".bufname(bufnr(escdirname)).">")
" call Decho(' exe silent! keepalt file '.escdirname)
exe 'silent! keepalt file '.escdirname
" call Decho(" errmsg<".v:errmsg.">
bufnr(".escdirname.")=".bufnr(escdirname)."<".bufname(bufnr(escdirname)).">")
endif
" call Decho(" named anew buffer#".bufnr("% ")."<".bufname("% ").">")

else " Re-use the buffer
" call Decho("--re-use buffer#".bufnum." : --")
let eikeep= &ei
set ei=all
if getline(2) =~ '^" Netrw Directory Listing'
" call Decho(" re-use buffer#".bufnum."<".((bufnum > 0)? bufname(bufnum) : "")."> using: keepalt b ".bufnum)
exe "keepalt b ".bufnum
else
" call Decho(" reusing buffer#".bufnum."<".((bufnum > 0)? bufname(bufnum) : "")."> using: b ".bufnum)
exe "b ".bufnum
endif
if bufname("%") == '!'
" call Decho("exe silent! keepalt file ".fnameescape(getcwd()))
exe "silent! keepalt file ".fnameescape(getcwd())
endif
let &ei= eikeep
if line("$") <= 1
call s:NetrwListSettings(a:islocal)
" call Dret("s:NetrwGetBuffer 0 : re-using buffer#".bufnr("% ").", but its empty, so refresh it")
return 0
elseif exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST
" call Decho("--re-use tree listing--")
" call Decho(" clear buffer<".expand("% ")."> with :%d")
silent %d
call s:NetrwListSettings(a:islocal)

```

```

" call Dret("s:NetrwGetBuffer 0 : re-using buffer#.bufnr("%").", but treelist mode always needs a refresh")
return 0
else
" call Dret("s:NetrwGetBuffer 1 : buf#.bufnr("%"))
return 1
endif
endif

" do netrw settings: make this buffer not-a-file, modifiable, not line-numbered, etc {{{3
" fastbrowse Local Remote Hiding a buffer implies it may be re-used (fast)
" slow 0 D D Deleting a buffer implies it will not be re-used (slow)
" med 1 D H
"
fast 2 H H
" call Decho("--do netrw settings: make this buffer not-a-file, modifiable, not line-numbered, etc--")
let fname= expand("%")
call s:NetrwListSettings(a:islocal)
" call Decho("exe keepalt file ".fnameescape(fname))
exe "keepalt file ".fnameescape(fname)

" delete all lines from buffer {{{3
" call Decho("--delete all lines from buffer--")
" call Decho(" clear buffer<".expand("%")."> with :%d")
keepalt silent! %d

" call Dret("s:NetrwGetBuffer 0 : buf#.bufnr("%"))
return 0
endfun

" -----
" s:NetrwGetcwd: get the current directory. {{{2
" Change backslashes to forward slashes, if any.
" If doesc is true, escape certain troublesome characters
fun! s:NetrwGetcwd(doesc)
" call Dfunc("NetrwGetcwd(doesc=".a:doesc.")")
let curdir= substitute(getcwd(),"\\','ge')
if curdir !~ '[\V]$\$'
let curdir= curdir.'/'
endif
if a:doesc
let curdir= fnameescape(curdir)
endif
" call Dret("NetrwGetcwd <".curdir.">")
return curdir
endfun

" -----
" s:NetrwGetWord: it gets the directory/file named under the cursor {{{2

```

```

fun! s:NetrwGetWord()
" call Dfunc("s:NetrwGetWord() line#".line(".").".liststyle=".g:netrw_liststyle." virtcol=".virtcol("."))
call s:UseBufWinVars()

" insure that w:netrw_liststyle is set up
if !exists("w:netrw_liststyle")
if exists("g:netrw_liststyle")
let w:netrw_liststyle= g:netrw_liststyle
else
let w:netrw_liststyle= s:THINLIST
endif
" call Decho("w:netrw_liststyle=".w:netrw_liststyle)
endif

if exists("w:netrw_bannercnt") && line(".") < w:netrw_bannercnt
" Active Banner support
" call Decho("active banner handling")
norm! 0
let dirname= "./"
let curline= getline('.')

if curline =~ ""\s*Sorted by\s'
norm s
let s:netrw_skipbrowse= 1
echo 'Pressing "s" also works'

elseif curline =~ ""\s*Sort sequence:'
let s:netrw_skipbrowse= 1
echo 'Press "S" to edit sorting sequence'

elseif curline =~ ""\s*Quick Help:'
norm ?
let s:netrw_skipbrowse= 1
echo 'Pressing "?" also works'

elseif curline =~ ""\s*\%(Hiding\|Showing\):'
norm a
let s:netrw_skipbrowse= 1
echo 'Pressing "a" also works'

elseif line("$") > w:netrw_bannercnt
exe 'silent keepjumps '.w:netrw_bannercnt
endif

elseif w:netrw_liststyle == s:THINLIST
" call Decho("thin column handling")
norm! 0
let dirname= getline('.')

```

```

elseif w:netrw_liststyle == s:LONGLIST
" call Decho("long column handling")
norm! 0
let dirname= substitute(getline('.'),'^\(\%(\|S\+ \|)*\|S\+\).{-}$',\1,'e')

elseif w:netrw_liststyle == s:TREELIST
" call Decho("treelist handling")
let dirname= substitute(getline('.'),'^\(| \|)*','e')

else
" call Decho("obtain word from wide listing")
let dirname= getline('.')

if !exists("b:netrw_cpf")
let b:netrw_cpf= 0
exe 'silent keepjumps '.w:netrw_bannercnt.',$g/^./if virtcol("$") > b:netrw_cpf|let b:netrw_cpf= virtcol("$)|endif'
" call Decho("computed cpf=".b:netrw_cpf)
endif

" call Decho("buf#".bufnr("%")."<".bufname("%").">")
let filestart = (virtcol(".")/b:netrw_cpf)*b:netrw_cpf
" call Decho("filestart= ([virtcol=".virtcol(".")."]/[b:netrw_cpf=".b:netrw_cpf."])*b:netrw_cpf=".filestart."
bannercnt=".w:netrw_bannercnt)
" call Decho("1: dirname<".dirname.">")
if filestart == 0
norm! 0ma
else
call cursor(line("."),filestart+1)
norm! ma
endif
let rega= @a
let eofname= filestart + b:netrw_cpf + 1
if eofname <= col("$")
call cursor(line("."),filestart+b:netrw_cpf+1)
norm! "ay'a
else
norm! "ay$
endif
let dirname = @a
let @a = rega
" call Decho("2: dirname<".dirname.">")
let dirname= substitute(dirname,\s+\$','e')
" call
Decho("3: dirname<".dirname.">")
endif

" symlinks are indicated by a trailing "@". Remove it before further processing.

```

```

let dirname= substitute(dirname,"@$", "", "")

" executables are indicated by a trailing "*". Remove it before further processing.
let dirname= substitute(dirname,"\\*$", "", "")

" call Dret("s:NetrwGetWord <".dirname.">")
return dirname
endfun

" -----
" s:NetrwListSettings: {{{2
fun! s:NetrwListSettings(islocal)
" call Dfunc("s:NetrwListSettings(islocal=".a:islocal.")")
let fname= bufname("%")
" call Decho("setlocal bt=nofile nobl ma nonu nowrap noro")
setlocal bt=nofile nobl ma nonu nowrap noro
" call Decho("exe keepalt file ".fnameescape(fname))
exe "keepalt file ".fnameescape(fname)
if g:netrw_use_noswf
setlocal noswf
endif
" call Dredir("ls!")
" call Decho("exe setlocal ts=".g:netrw_maxfilenamelen)
exe "setlocal ts=".g:netrw_maxfilenamelen
setlocal isk+=.,~, -
if g:netrw_fastbrowse > a:islocal
setlocal bh=hide
else
setlocal bh=delete
endif
" call Dret("s:NetrwListSettings")
endfun

" -----
" s:NetrwListStyle: {{{2
" islocal=0: remote browsing
"   =1: local browsing
fun! s:NetrwListStyle(islocal)
" call Dfunc("NetrwListStyle(islocal=".a:islocal.") w:netrw_liststyle=".w:netrw_liststyle)
let fname      = s:NetrwGetWord()
if !exists("w:netrw_liststyle")|let w:netrw_liststyle= g:netrw_liststyle|endif
let w:netrw_liststyle = (w:netrw_liststyle + 1) % s:MAXLIST
" call Decho("fname<".fname.">")
" call Decho("chgd w:netrw_liststyle to ".w:netrw_liststyle)
" call Decho("b:netrw_curdir<".(exists("b:netrw_curdir"))? b:netrw_curdir : "doesn't exist").">")

if w:netrw_liststyle == s:THINLIST
" use one column listing

```

```

" call Decho("use one column list")
let g:netrw_list_cmd = substitute(g:netrw_list_cmd,'
-l','ge')

elseif w:netrw_liststyle == s:LONGLIST
" use long list
" call Decho("use long list")
let g:netrw_list_cmd = g:netrw_list_cmd." -l"

elseif w:netrw_liststyle == s:WIDELIST
" give wide list
" call Decho("use wide list")
let g:netrw_list_cmd = substitute(g:netrw_list_cmd,' -l','ge')

elseif w:netrw_liststyle == s:TREELIST
" call Decho("use tree list")
let g:netrw_list_cmd = substitute(g:netrw_list_cmd,' -l','ge')

else
call netrw#ErrorMsg(s:WARNING,"bad value for g:netrw_liststyle (=".w:netrw_liststyle.")",46)
let g:netrw_liststyle = s:THINLIST
let w:netrw_liststyle = g:netrw_liststyle
let g:netrw_list_cmd = substitute(g:netrw_list_cmd,' -l','ge')
endif
setlocal ma noro
" call Decho("setlocal ma noro")

" clear buffer - this will cause NetrwBrowse/LocalBrowseCheck to do a refresh
" call Decho("clear buffer<".expand("%")."> with :%d")
%d

" refresh the listing
let svpos= netrw#NetrwSavePosn()
call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,'/'))
call netrw#NetrwRestorePosn(svpos)
if w:netrw_liststyle != s:WIDELIST
if g:netrw_cursorline == 2
setlocal cursorline
let &cursorcolumn= s:netrw_usercuc
elseif g:netrw_cursorline
setlocal cursorline
" call Decho("setlocal cursorline")
endif
else
if g:netrw_cursorline == 2
setlocal cursorline cursorcolumn
" call Decho("setlocal cursorline cursorcolumn")
elseif g:netrw_cursorline

```

```

let &cursorline= s:netrw_usercul
endif
endif

" keep cursor on the filename
silent keepjumps $
let result= search("\%(\%(|+\|s|)\)=\|s\{2,}\)\zs'.escape(fname,'.\[*$^').\%(\s\{2,}\|$\)','bc')
" call Decho("search result=".result." w:netrw_bannercnt="(exists("w:netrw_bannercnt")? w:netrw_bannercnt :
'N/A'))
if result <= 0 && exists("w:netrw_bannercnt")
exe "keepjumps ".w:netrw_bannercnt
endif

" call Dret("NetrwListStyle".(exists("w:netrw_liststyle")?
': w:netrw_liststyle='.w:netrw_liststyle : ""))
endfun

" -----
" s:NetrwBookmarkMenu: Uses menu priorities {{{2
"         .2.[cnt] for bookmarks, and
"         .3.[cnt] for history
"         (see s:NetrwMenu())
fun! s:NetrwBookmarkMenu()
if !exists("s:netrw_menucnt")
return
endif
" call Dfunc("NetrwBookmarkMenu() histcnt=".g:netrw_dirhist_cnt." menucnt=".s:netrw_menucnt)

" the following test assures that gvim is running, has menus available, and has menus enabled.
if has("gui") && has("menu") && has("gui_running") && &go =~ 'm' && g:netrw_menu
if exists("g:NetrwTopLvlMenu")
" call Decho("removing ".g:NetrwTopLvlMenu.'Bookmarks menu item(s)')
exe 'silent! unmenu '.g:NetrwTopLvlMenu.'Bookmarks'
exe 'silent! unmenu '.g:NetrwTopLvlMenu.'Bookmarks\ and\ History.Bookmark\ Delete'
endif
if !exists("s:netrw_initbookhist")
call s:NetrwBookHistRead()
endif

" show bookmarked places
if exists("g:netrw_bookmarklist") && g:netrw_bookmarklist != []
let cnt= 1
for bmd in g:netrw_bookmarklist
" call Decho('silent! menu '.g:NetrwMenuPriority.'.2.'.cnt." ".g:NetrwTopLvlMenu.'Bookmark.'.bmd.' :e '.bmd)
let bmd= escape(bmd,' ')

" show bookmarks for goto menu
exe 'silent! menu '.g:NetrwMenuPriority.'.2.'.cnt." ".g:NetrwTopLvlMenu.'Bookmarks.'.bmd.' :e '.bmd."<cr>"

```



```

" show bookmarks for deletion menu
exe 'silent! menu '.g:NetrwMenuPriority.".8.2.".cnt.'" ".g:NetrwTopLvlMenu.'Bookmarks\ and\
History.Bookmark\ Delete.'.bmd.'.cnt.'"mB"
  let cnt= cnt + 1
endfor

endif

" show directory browsing history
let cnt = g:netrw_dirhist_cnt
let first = 1
let histcnt = 0
while ( first || cnt != g:netrw_dirhist_cnt )
  let histcnt = histcnt + 1
  let priority = g:netrw_dirhist_cnt + histcnt
  if exists("g:netrw_dirhist_{cnt}")
    let histdir= escape(g:netrw_dirhist_{cnt},'./&? ')
"   call Decho('silent! menu '.g:NetrwMenuPriority.".3.".priority.'" ".g:NetrwTopLvlMenu.'History.'.histdir.' :e
'.histdir)
    exe 'silent! menu '.g:NetrwMenuPriority.".3.".priority.'" ".g:NetrwTopLvlMenu.'History.'.histdir.' :e
'.histdir.'"<cr>'
  endif
  let first = 0
  let cnt = ( cnt - 1 ) % g:netrw_dirhistmax
  if cnt < 0
    let cnt= cnt + g:netrw_dirhistmax
  endif
endwhile

endif
" call Dret("NetrwBookmarkMenu")
endfun

" -----
" s:NetrwBrowseChgDir: constructs a new directory based on the current {{{2
"       directory and a new directory name. Also, if the
"       "new directory name" is actually a file,
"       NetrwBrowseChgDir() edits the file.
fun! s:NetrwBrowseChgDir(islocal,newdir,...)
" call Dfunc("s:NetrwBrowseChgDir(islocal=".a:islocal.">
newdir<"a:newdir.">) a:0="a:0." curpos<".string(getpos("."))"> b:netrw_curdir<".(exists("b:netrw_curdir"))?
b:netrw_curdir : "".">")

if !exists("b:netrw_curdir")
" Don't try to change-directory: this can happen, for example, when netrw#ErrorMsg has been called
" and the current window is the NetrwMessage window.
" call Decho("(NetrwBrowseChgDir) b:netrw_curdir doesn't exist!")

```

```

" call Decho("getcwd<"getcwd().">")
" call Dredir("ls!")
" call Dret("s:NetrwBrowseChgDir")
return
endif

call s:NetrwOptionSave("s:")
call s:NetrwSafeOptions()
let nbcd_curpos          = netrw#NetrwSavePosn()
let s:nbcd_curpos_{bufnr('%')} = nbcd_curpos
let dirname              = substitute(b:netrw_curdir, '\\', '/', 'ge')
let newdir               = a:newdir
let dolockout            = 0

" set up o/s-dependent directory recognition pattern
if has("amiga")
let dirpat= '[\V:]*$'
else
let dirpat= '[\V]*$'
endif
" call
Decho("dirname<".dirname."> dirpat<".dirpat.">")

if dirname !~ dirpat
" apparently vim is "recognizing" that it is in a directory and
" is removing the trailing "/". Bad idea, so I put it back.
let dirname= dirname.'/'
" call Decho("adjusting dirname<".dirname.">")
endif

if newdir !~ dirpat
" -----
" edit a file:
" -----
" call Decho('case "handling a file": newdir<'.newdir.> !~ dirpat<'.dirpat.">')
if exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST && exists("w:netrw_treedict") && newdir !~
'^\(\(\|a:\)')
let dirname= s:NetrwTreeDir()
if dirname =~ '/$'
let dirname= dirname.newdir
else
let dirname= s:NetrwTreeDir()."/".newdir
endif
" call Decho("tree listing")
elseif newdir =~ '^(\(\|a:\)')
let dirname= newdir
else
let dirname= s:ComposePath(dirname,newdir)

```

```

endif
" call Decho("handling a file: dirname<".dirname."> (a:0=".a:0.")")
" this lets
NetrwBrowseX avoid the edit
if a:0 < 1
" call Decho("set up windows for editing<".fnameescape(dirname)."> didsplit=".exists("s:didsplit")? s:didsplit :
"doesn't exist")
call s:NetrwOptionRestore("s:")
if !exists("s:didsplit")
if g:netrw_browse_split == 1
new
wincmd _
elseif g:netrw_browse_split == 2
rightb vert new
wincmd |
elseif g:netrw_browse_split == 3
tabnew
elseif g:netrw_browse_split == 4
if s:NetrwPrevWinOpen(2) == 3
" call Dret("s:NetrwBrowseChgDir")
return
endif
else
" handling a file, didn't split, so remove menu
" call Decho("handling a file+didn't split, so remove menu")
call s:NetrwMenu(0)
" optional change to window
if g:netrw_chgwin >= 1
exe "keepjumps ".g:netrw_chgwin."wincmd w"
endif
endif
endif
" the point where netrw actually edits the (local) file
" if its local only: LocalBrowseCheck()
doesn't edit a file, but NetrwBrowse() will
if a:islocal
" call Decho("edit local file: exe e! ".fnameescape(dirname))
exe "e! ".fnameescape(dirname)
else
" call Decho("remote file: NetrwBrowse will edit it")
endif
let dolockout= 1
endif

elseif newdir =~ '^/'
" -----
" just go to the new directory spec
" -----

```

```

" call Decho('case "just go to new directory spec": newdir<'.newdir.>')
let dirname= newdir
call s:SetRexDir(a:islocal,dirname)
call s:NetrwOptionRestore("s:")

elseif newdir == './'
" -----
" refresh the directory list
" -----
" call Decho('case "refresh directory listing": newdir == "./"')
call s:SetRexDir(a:islocal,dirname)

elseif newdir == '../'
" -----
" go up one directory
" -----
" call Decho('case "go up one directory": newdir
== "../"')

if w:netrw_liststyle == s:TREELIST && exists("w:netrw_treedict")
" force a refresh
" call Decho("clear buffer<".expand("%")."> with :%d")
setlocal noro ma
" call Decho("setlocal noro ma")
keepjumps %d
endif

if has("amiga")
" amiga
" call Decho('case "go up one directory": newdir == "../" and amiga')
if a:islocal
let dirname= substitute(dirname,'^\(.*[:])\([^\]+\$)',\1,")
let dirname= substitute(dirname,'/$',",")
else
let dirname= substitute(dirname,'^\(.*[:])\([^\]+/$)',\1,")
endif
" call Decho("amiga: dirname<".dirname."> (go up one dir)")

else
" unix or cygwin
" call Decho('case "go up one directory": newdir == "../" and unix or cygwin')
if a:islocal
let dirname= substitute(dirname,'^\(.*\)\([^\]+)\$',\1,")
if dirname == ""
let dirname= '/'
endif
else
let dirname= substitute(dirname,'^\(a+://\{-}\{1,2}\)\(\{-}\)\([^\]+)\$',\1\2,")

```

```

endif
" call Decho("unix: dirname<".dirname."> (go up one dir)")
endif
call s:SetRexDir(a:islocal,dirname)

elseif exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST && exists("w:netrw_treedict")
" call Decho('case liststyle is TREELIST and w:netrw_treedict exists')
" force a refresh (for TREELIST, wait for NetrwTreeDir() to force the refresh)
setlocal noro ma
" call Decho("setlocal noro ma")
if !(exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST && exists("b:netrw_curdir"))
" call Decho("clear buffer<".expand("%")."> with :%d")
keepjumps %d
endif
let treedir = s:NetrwTreeDir()
let s:treecurpos = nbc_d_curpos
let haskey= 0
" call Decho("w:netrw_treedict<".string(w:netrw_treedict).">")

" search treedict for tree dir as-is
if has_key(w:netrw_treedict,treedir)
" call Decho('....searched for treedir<'.treedir.> : found it!')
let haskey= 1
else
"
call Decho('....searched for treedir<'.treedir.> : not found')
endif

" search treedict for treedir with a / appended
if !haskey && treedir !~ '/'
if has_key(w:netrw_treedict,treedir."/")
let treedir= treedir. "/"
" call Decho('....searched for treedir<'.treedir.> found it!')
let haskey = 1
else
" call Decho('....searched for treedir<'.treedir.'/> : not found')
endif
endif

" search treedict for treedir with any trailing / elided
if !haskey && treedir =~ '/'
let treedir= substitute(treedir,'/$',",")
if has_key(w:netrw_treedict,treedir)
" call Decho('....searched for treedir<'.treedir.> found it!')
let haskey = 1
else
" call Decho('....searched for treedir<'.treedir.> : not found')
endif
endif

```

```

endif

if haskey
  " close tree listing for selected subdirectory
  " call Decho("closing selected subdirectory<".dirname.">")
  call remove(w:netrw_treedict,treedir)
  "
  call Decho("removed entry<".dirname."> from treedict")
  " call Decho("yielding treedict<".string(w:netrw_treedict).">")
  let dirname= w:netrw_treetop
  else
    " go down one directory
    let dirname= substitute(treedir,'*$',','," )
  " call Decho("go down one dir: treedir<".treedir.">")
  endif
  call s:SetRexDir(a:islocal,dirname)

else
  " go down one directory
  let dirname= s:ComposePath(dirname,newdir)
  " call Decho("go down one dir: dirname<".dirname."> newdir<".newdir.">")
  call s:SetRexDir(a:islocal,dirname)
endif

call s:NetrwOptionRestore("s:")
if dolockout
  " call Decho("doing modification lockout settings: ma nomod noro")
  setlocal ma nomod noro
  " call Decho("setlocal ma nomod noro")
endif

" call Dret("s:NetrwBrowseChgDir <".dirname."> : curpos<".string(getpos(".")).">")
return dirname
endfun

" -----
" s:NetrwBrowseX: allows users to write
custom functions to operate on {{2
" files given their extension. Passes 0=local, 1=remote
fun! netrw#NetrwBrowseX(fname,remote)
" call Dfunc("NetrwBrowseX(fname<".a:fname."> remote=" .a:remote." )")

" set up the filename
" (lower case the extension, make a local copy of a remote file)
let exten= substitute(a:fname,'.*\(\{-}\)',\1,'e')
if has("win32") || has("win95") || has("win64") || has("win16")
  let exten= substitute(exten,'^.*$',\L&\E'," )
endif

```

```

" call Decho("exten<".exten.">")

" seems kde systems often have gnome-open due to dependencies, even though
" gnome-open's subsidiary display tools are largely absent. Kde systems
" usually have "kdeinit" running, though... (tnx Mikolaj Machowski)
if !exists("s:haskdeinit")
if has("unix")
let s:haskdeinit= system("ps -e") =~ 'kdeinit'
if v:shell_error
let s:haskdeinit = 0
endif
else
let s:haskdeinit= 0
endif
" call Decho("setting s:haskdeinit=".s:haskdeinit)
endif

if a:remote == 1
" create a local copy
" call Decho("a:remote=".a:remote." : create a local copy of <"a:fname.">")
setlocal bh=delete
call netrw#NetRead(3,a:fname)
" attempt to rename tempfile
let basename= substitute(a:fname,'^\(.*\)\/\([^\.]*\)$','\2','')
let newname= substitute(s:netrw_tmpfile,'^\(.*\)\/\([^\.]*\)$','\1/'.basename.'\3','')
" call Decho("basename<".basename.">")
" call Decho("newname <".newname.">")
if rename(s:netrw_tmpfile,newname) == 0
" renaming succeeded
let fname= newname
else
" renaming failed
let fname= s:netrw_tmpfile
endif
else
let fname= a:fname
endif
" call Decho("fname<".fname.">")
" call Decho("exten<".exten.">")
"."netrwFileHandlers#NFH_".exten."():exists=".exists("*netrwFileHandlers#NFH_".exten))

" set up redirection
if &srr =~ "%s"
if (has("win32") || has("win95") || has("win64") || has("win16"))
let redir= substitute(&srr,"%s","nul","")
else
let redir= substitute(&srr,"%s","/dev/null","")
endif
endif

```

```

elseif (has("win32") || has("win95") || has("win64") || has("win16"))
  let redir= &srr . "nul"
else
  let redir= &srr . "/dev/null"
endif
" call Decho("redir{" .redir." } srr{" .&srr."})

" extract any viewing options. Assumes that they're set apart by quotes.
if exists("g:netrw_browse_viewer")
  if g:netrw_browse_viewer =~ '\s'
    let viewer = substitute(g:netrw_browse_viewer, '\s.*$', "")
    let viewopt = substitute(g:netrw_browse_viewer, '\S\+\s*', "", "")
    let oviewer = ""
    let cnt = 1
    while !executable(viewer) && viewer != oviewer
      let viewer = substitute(g:netrw_browse_viewer, '\((^\S\+\s\+)\)\{'.cnt.'\}\S\+\)(.*)$', '\1', "")
      let viewopt = substitute(g:netrw_browse_viewer, '\((^\S\+\s\+)\)\{'.cnt.'\}\S\+\)(.*)$', '\3', "")
      let cnt = cnt + 1
      let oviewer = viewer
    " call Decho("!exe: viewer<".viewer.">
viewopt<".viewopt.">")
    endwhile
  else
    let viewer = g:netrw_browse_viewer
    let viewopt = ""
  endif
" call Decho("viewer<".viewer."> viewopt<".viewopt.">")
endif

" execute the file handler
if exists("g:netrw_browse_viewer") && g:netrw_browse_viewer == '-'
" call Decho("g:netrw_browse_viewer<".g:netrw_browse_viewer.">")
let ret= netrwFileHandlers#Invoke(exten,fname)

elseif exists("g:netrw_browse_viewer") && executable(viewer)
" call Decho("g:netrw_browse_viewer<".g:netrw_browse_viewer.">")
" call Decho("exe silent !".viewer." ".viewopt.shellescape(fname,1).redir)
exe "silent !".viewer." ".viewopt.shellescape(fname,1).redir
let ret= v:shell_error

elseif has("win32") || has("win64")
" call Decho('exe silent !start rundll32 url.dll,FileProtocolHandler '.shellescape(fname,1))
exe 'silent !start rundll32 url.dll,FileProtocolHandler '.shellescape(fname,1)
call inputsave()|call input("Press <cr> to continue")|call
inputrestore()
let ret= v:shell_error

elseif has("unix") && executable("gnome-open") && !s:haskdeinit

```



```

" call Decho("exe silent !gnome-open ".shellescape(fname,1)." ".redir)
exe "silent !gnome-open ".shellescape(fname,1).redir
let ret= v:shell_error

elseif has("unix") && executable("kfmclient") && s:haskdeinit
" call Decho("exe silent !kfmclient exec ".shellescape(fname,1)." ".redir)
exe "silent !kfmclient exec ".shellescape(fname,1)." ".redir
let ret= v:shell_error

elseif has("macunix") && executable("open")
" call Decho("exe silent !open ".shellescape(fname,1)." ".redir)
exe "silent !open ".shellescape(fname,1)." ".redir
let ret= v:shell_error

else
" netrwFileHandlers#Invoke() always returns 0
let ret= netrwFileHandlers#Invoke(exten,fname)
endif

" if unsuccessful, attempt netrwFileHandlers#Invoke()
if ret
let ret= netrwFileHandlers#Invoke(exten,fname)
endif

" restoring redraw! after external
file handlers
redraw!

" cleanup: remove temporary file,
" delete current buffer if success with handler,
" return to prior buffer (directory listing)
" Feb 12, 2008: had to de-activate removal of
" temporary file because it wasn't getting seen.
" if a:remote == 1 && fname != a:fname
" call Decho("deleting temporary file<".fname.">")
" call s:NetrwDelete(fname)
" endif

if a:remote == 1
setlocal bh=delete bt=nofile
if g:netrw_use_noswf
setlocal noswf
endif
exe "norm! \<c-o>"
" redraw!
endif

" call Dret("NetrwBrowseX")

```

endfun

```
"-----
" netrw#Explore: launch the local browser in the directory of the current file {{{2
"   indx: == -1: Nexplore
"       == -2: Pexplore
"       == +: this is overloaded:
"           * If Nexplore/Pexplore is in use, then this refers to the
"
"           indx'th item in the w:netrw_explore_list[] of items which
"           matched the */pattern */pattern */pattern */pattern
"           * If Hexplore or Vexplore, then this will override
"           g:netrw_winsize to specify the qty of rows or columns the
"           newly split window should have.
"   dosplit==0: the window will be split iff the current file has been modified
"   dosplit==1: the window will be split before running the local browser
"   style == 0: Explore   style == 1: Explore!
"           == 2: Hexplore  style == 3: Hexplore!
"           == 4: Vexplore  style == 5: Vexplore!
"           == 6: Texplore
"DechoTabOn
fun! netrw#Explore(indx,dosplit,style,...)
" call Dfunc("netrw#Explore(indx=".a:indx." dosplit=".a:dosplit." style=".a:style.",a:1<".a:1.">)
&modified=".&modified." a:0=".a:0)
if !exists("b:netrw_curdir")
  let b:netrw_curdir=
getcwd()
" call Decho("set b:netrw_curdir<"b:netrw_curdir."> (used getcwd)")
endif
let curfile= b:netrw_curdir
" call Decho("curfile<".curfile.">")

" save registers
silent! let keepregstar = @*
silent! let keepregplus = @+
silent! let keepregslash= @/

" if dosplit or file has been modified
if a:dosplit || &modified || a:style == 6
" call Decho("case: dosplit=".a:dosplit." modified=".&modified." a:style=".a:style)
call s:SaveWinVars()
let winsize= g:netrw_winsize
if a:indx > 0
  let winsize= a:indx
endif

if a:style == 0 " Explore, Sexplore
" call Decho("style=0: Explore or Sexplore")
```

```

exe winsize."wincmd s"

elseif a:style == 1 "Explore!, Sexplore!
" call Decho("style=1: Explore! or Sexplore!")
exe winsize."wincmd v"

elseif a:style == 2 " Hexplore
" call Decho("style=2: Hexplore")
exe "bel ".winsize."wincmd s"

elseif a:style == 3 " Hexplore!
" call Decho("style=3: Hexplore!")
exe "abo ".winsize."wincmd s"

elseif a:style == 4 " Vexplore
" call Decho("style=4: Vexplore")
exe "lefta ".winsize."wincmd v"

elseif a:style == 5 " Vexplore!
" call Decho("style=5: Vexplore!")
exe "rightb ".winsize."wincmd v"

elseif a:style == 6 " Texplore
call s:SaveBufVars()
" call Decho("style = 6: Texplore")
tabnew
call s:RestoreBufVars()
endif
call s:RestoreWinVars()
endif
norm! 0

if a:0 > 0
" call Decho("case [a:0=".a:0.]">0: a:1<".a:1.">")
if a:1 =~ '^\\~' && (has("unix") || (exists("g:netrw_cygwin") && g:netrw_cygwin))
let dirname= substitute(a:1, '\\~', expand("$HOME"),)
" call Decho("using dirname<".dirname."> (case: ~ && unix|cygwin)")
elseif a:1 == '.'
let dirname= exists("b:netrw_curdir"? b:netrw_curdir : getcwd()
if dirname !~ '\\$'
let dirname= dirname."/\"
endif
" call Decho("using dirname<".dirname."> (case: ".(exists("b:netrw_curdir"?
"b:netrw_curdir" : "getcwd()).)")")
elseif a:1 =~ '\\$'
let dirname= expand(a:1)
else
let dirname= a:1

```

```

" call Decho("using dirname<".dirname.">")
endif
else
" clear explore
" call Decho("clearing explore variables")
2match none
if exists("s:explore_match") |unlet s:explore_match |endif
if exists("s:explore_indx") |unlet s:explore_indx |endif
if exists("s:dirstarstar") |unlet s:dirstarstar |endif
if exists("s:dirstarstar") |unlet s:dirstarstar |endif
if exists("w:netrw_explore_indx") |unlet w:netrw_explore_indx |endif
if exists("w:netrw_explore_listlen")|unlet w:netrw_explore_listlen|endif
if exists("w:netrw_explore_list") |unlet w:netrw_explore_list |endif
if exists("w:netrw_explore_bufnr") |unlet w:netrw_explore_bufnr |endif
" redraw!
echo " "
echo " "
" call Dret("netrw#Explore : cleared list")
return
endif

if
dirname =~ '\*\*/'
" handle .../**/.../filepat
" call Decho("case Explore .../**/.../filepat")
let prefixdir= substitute(dirname,'\{.-}\*\*.*$',\1,"")
if prefixdir =~ '^/' || (prefixdir =~ '^a:/' && (has("win32") || has("win95") || has("win64") || has("win16")))
let b:netrw_curdir = prefixdir
else
let b:netrw_curdir= getcwd().'prefixdir
endif
let dirname= substitute(dirname,'\{.-}\(\*\*/.*\)$',\1,"")
let starpat= 4;
" call Decho("pwd<".getcwd()."> dirname<".dirname.">")
" call Decho("case Explore ../**/.../filepat (starpat=".starpat.")")

elseif dirname =~ '\*\*/'
" starpat=1: Explore */pattern (current directory only search for files containing pattern)
" call Decho("case Explore */pattern")
let pattern= substitute(dirname,'\*/\(.*)$',\1,"")
let starpat= 1
" call Decho("Explore */pat: (starpat=".starpat.") dirname<".dirname."> -> pattern<".pattern.">")
if &hls | let keepregslash= s:ExplorePatHls(pattern)
| endif

elseif dirname =~ '\*\*/'
" starpat=2: Explore **//pattern (recursive descent search for files containing pattern)
" call Decho("case Explore **//pattern")

```

```

let pattern= substitute(dirname, '^.*\*/', '')
let starpat= 2
" call Decho("Explore **//pat: (starpat=".starpat.") dirname<".dirname."> -> pattern<".pattern.">")

elseif dirname =~ '\*/'
" starpat=3: Explore */filepat (search in current directory for filenames matching filepat)
let starpat= 3
" call Decho("case Explore */filepat (starpat=".starpat.")")

elseif dirname =~ '\*\*/'
" starpat=4: Explore **/filepat (recursive descent search for filenames matching filepat)
let starpat= 4
" call Decho("case Explore **/filepat (starpat=".starpat.")")
else
let starpat= 0
endif

if starpat == 0 && a:indx >= 0
" [Explore Hexplore Vexplore Sexplore] [dirname]
" call Decho("case dirname<".dirname."> a:indx=".a:indx.": Explore Hexplore Vexplore
Sexplore")
if dirname == ""
let dirname= substitute(expand("%:p"), '^(\.[^/])[^/]*$', '\1', 'e')
endif
if dirname =~ '^scp:' || dirname =~ '^ftp:'
" call Decho("calling NetrwBrowse(0,dirname<".dirname.">)")
call s:NetrwBrowse(0,dirname)
else
if dirname == "" | let dirname= getcwd() | endif
" call Decho("calling LocalBrowseCheck(dirname<".dirname.">)")
call netrw#LocalBrowseCheck(dirname)
endif

" call Decho("curfile<".curfile.">")
if has("win32") || has("win95") || has("win64") || has("win16")
call search('\<.substitute(curfile, '^.*[\\]', 'e').\>', 'cW')
else
call search('\<.substitute(curfile, '^.*/', 'e').\>', 'cW')
endif

" starpat=1: Explore */pattern (current directory only search for files containing pattern)
" starpat=2: Explore **//pattern (recursive descent search for files containing pattern)
" starpat=3: Explore */filepat (search in current directory for filenames matching filepat)
" starpat=4: Explore **/filepat (recursive descent search for filenames matching filepat)
elseif a:indx <= 0
" Nexplore, Pexplore, Explore: handle starpat
" call Decho("case Nexplore, Pexplore, <s-down>, <s-up>: starpat=".starpat." a:indx=".a:indx)
if !mapcheck("<s-up>", "n") && !mapcheck("<s-down>", "n") && exists("b:netrw_curdir")

```

```

" call Decho("set up <s-up> and <s-down> maps")
let s:didstarstar= 1
nnoremap <buffer> <silent> <s-up> :Pexplore<cr>
nnoremap <buffer> <silent> <s-down> :Nexplore<cr>
endif

if has("path_extra")
" call Decho("starpat=".starpat.": has +path_extra")
if !exists("w:netrw_explore_indx")
let w:netrw_explore_indx= 0
endif

let indx = a:indx
" call Decho("starpat=".starpat.": set indx= [a:indx=".indx."]")

if indx == -1
" Nexplore
" call Decho("case Nexplore with starpat=".starpat.": (indx=".indx.")")
if !exists("w:netrw_explore_list") " sanity check
call netrw#ErrorMsg(s:WARNING,"using
Nexplore or <s-down> improperly; see help for netrw-starstar",40)
silent! let @* = keepregstar
silent! let @+ = keepregstar
silent! let @/ = keepregslash
" call Dret("netrw#Explore")
return
endif
let indx= w:netrw_explore_indx
if indx < 0 | let indx= 0 | endif
if indx >= w:netrw_explore_listlen | let indx= w:netrw_explore_listlen - 1 | endif
let curfile= w:netrw_explore_list[indx]
" call Decho("indx=".indx." curfile<".curfile.">")
while indx < w:netrw_explore_listlen && curfile == w:netrw_explore_list[indx]
let indx= indx + 1
" call Decho("indx=".indx." (Nexplore while loop)")
endwhile
if indx >= w:netrw_explore_listlen | let indx= w:netrw_explore_listlen - 1 | endif
" call Decho("Nexplore: indx= [w:netrw_explore_indx=".w:netrw_explore_indx."]=.indx)

elseif indx == -2
" Pexplore
" call Decho("case
Pexplore with starpat=".starpat.": (indx=".indx.")")
if !exists("w:netrw_explore_list") " sanity check
call netrw#ErrorMsg(s:WARNING,"using Pexplore or <s-up> improperly; see help for netrw-starstar",41)
silent! let @* = keepregstar
silent! let @+ = keepregstar
silent! let @/ = keepregslash

```

```

"    call Dret("netrw#Explore")
    return
endif
let indx= w:netrw_explore_indx
if indx < 0          | let indx= 0          | endif
if indx >= w:netrw_explore_listlen | let indx= w:netrw_explore_listlen - 1 | endif
let curfile= w:netrw_explore_list[indx]
"    call Decho("indx=".indx." curfile<".curfile.">")
while indx >= 0 && curfile == w:netrw_explore_list[indx]
    let indx= indx - 1
"    call Decho("indx=".indx." (Pexplore while loop)")
endwhile
if indx < 0          | let indx= 0          | endif
"    call Decho("Pexplore: indx=
[w:netrw_explore_indx=".w:netrw_explore_indx."]=.indx)

else
" Explore -- initialize
" build list of files to Explore with Nexplore/Pexplore
"    call Decho("starpat=".starpat.": case Explore: initialize (indx=".indx.")")
let w:netrw_explore_indx= 0
if !exists("b:netrw_curdir")
    let b:netrw_curdir= getcwd()
endif
"    call Decho("starpat=".starpat.": b:netrw_curdir<".b:netrw_curdir.">")

" switch on starpat to build the w:netrw_explore_list of files
if starpat == 1
" starpat=1: Explore */pattern (current directory only search for files containing pattern)
"    call Decho("starpat=".starpat.": build */pattern list")
"    call Decho("pattern<".pattern.">")
exe "vimgrep /".pattern."/gj ".fnameescape(b:netrw_curdir)."/*"
let w:netrw_explore_list = map(getqflist(),'bufname(v:val.bufnr)')
if &hls | let keepregslash= s:ExplorePatHls(pattern) | endif

elseif starpat == 2
" starpat=2:
Explore */pattern (recursive descent search for files containing pattern)
"    call Decho("starpat=".starpat.": build */pattern list")
try
    exe "silent vimgrep /".pattern."/gj ". "**/*"
catch /^Vim%((\a\+))\=:E480/
    call netrw#ErrorMsg(s:WARNING,'no files matched pattern<'.pattern.>',45)
if &hls | let keepregslash= s:ExplorePatHls(pattern) | endif
silent! let @* = keepregstar
silent! let @+ = keepregstar
silent! let @/ = keepregslash
"    call Dret("netrw#Explore : no files matched pattern")

```

```

return
endtry
let s:netrw_curdir    = b:netrw_curdir
let w:netrw_explore_list = getqflist()
let w:netrw_explore_list = map(w:netrw_explore_list,'s:netrw_curdir.'" .bufname(v:val.bufnr)')

elseif starpat == 3
" starpat=3: Explore */filepat (search in current directory for filenames matching filepat)
" call Decho("starpat=".starpat.": build */filepat list")
let
filepat= substitute(dirname,'^\*/',"")
let filepat= substitute(filepat,'^[%#<]',"\&',"")
" call Decho("b:netrw_curdir<".b:netrw_curdir.">")
" call Decho("filepat<".filepat.">")
let w:netrw_explore_list= split(expand(b:netrw_curdir.'" .filepat),'\n')
if &hls | let keepregslash= s:ExplorePatHls(filepat) | endif

elseif starpat == 4
" starpat=4: Explore **/filepat (recursive descent search for filenames matching filepat)
" call Decho("starpat=".starpat.": build **/filepat list")
let w:netrw_explore_list= split(expand(b:netrw_curdir.'" .dirname),'\n')
if &hls | let keepregslash= s:ExplorePatHls(dirname) | endif
endif " switch on starpat to build w:netrw_explore_list

let w:netrw_explore_listlen = len(w:netrw_explore_list)
" call Decho("w:netrw_explore_list<".string(w:netrw_explore_list).">")
" call Decho("w:netrw_explore_listlen=".w:netrw_explore_listlen)

if w:netrw_explore_listlen == 0
|| (w:netrw_explore_listlen == 1 && w:netrw_explore_list[0] =~ "\*\*/")
call netrw#ErrorMsg(s:WARNING,"no files matched",42)
silent! let @* = keepregstar
silent! let @+ = keepregstar
silent! let @/ = keepregslash
" call Dret("netrw#Explore : no files matched")
return
endif
endif " if indx ... endif

" NetrwStatusLine support - for exploring support
let w:netrw_explore_indx= indx
" call Decho("explorelist<".join(w:netrw_explore_list,',')."> len=".w:netrw_explore_listlen)

" wrap the indx around, but issue a note
if indx >= w:netrw_explore_listlen || indx < 0
" call Decho("wrap indx (indx=".indx." listlen=".w:netrw_explore_listlen.")")
let indx          = (indx < 0)? ( w:netrw_explore_listlen - 1 ) : 0
let w:netrw_explore_indx= indx

```



```

    call netrw#ErrorMsg(s:NOTE,"no more files match Explore pattern",43)
endif

exe "let dirfile= w:netrw_explore_list[".indx.]"
" call Decho("dirfile=w:netrw_explore_list[indx=".indx.]=
<".dirfile.">")
let newdir= substitute(dirfile,'[/\]*$',",e')
" call Decho("newdir<".newdir.">")

" call Decho("calling LocalBrowseCheck(newdir<".newdir.">)")
call netrw#LocalBrowseCheck(newdir)
if !exists("w:netrw_liststyle")
let w:netrw_liststyle= g:netrw_liststyle
endif
if w:netrw_liststyle == s:THINLIST || w:netrw_liststyle == s:LONGLIST
call search('^'.substitute(dirfile,"^.*"/,"","").'\>', "W")
else
call search('\<'.substitute(dirfile,"^.*"/,"","").'\>', "w")
endif
let w:netrw_explore_mtchcnt = indx + 1
let w:netrw_explore_bufnr = bufnr("%")
let w:netrw_explore_line = line(".")
call s:SetupNetrwStatusLine('%f %h%m%r%=%9*% {NetrwStatusLine()}')
" call Decho("explore: mtchcnt=".w:netrw_explore_mtchcnt." bufnr=".w:netrw_explore_bufnr."
line#".w:netrw_explore_line)

else
" call Decho("your vim does not have +path_extra")
if !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:WARNING,"your vim needs the +path_extra feature for Exploring with **!",44)
endif
silent! let @* = keepregstar
silent! let @+ = keepregstar
silent! let @/ = keepregslash
" call Dret("netrw#Explore : missing +path_extra")
return
endif

else
" call Decho("case Explore newdir<".dirname.">")
if exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST && dirname =~ '/'
silent! unlet w:netrw_treedict
silent! unlet w:netrw_treetop
endif
let newdir= dirname
if !exists("b:netrw_curdir")
call netrw#LocalBrowseCheck(getcwd())
else

```

```

    call netrw#LocalBrowseCheck(s:NetrwBrowseChgDir(1,newdir))
endif
endif

" visual display of **/ **// */ Exploration files
if exists("w:netrw_explore_indx") && exists("b:netrw_curdir")
if !exists("s:explore_prvdir") || s:explore_prvdir != b:netrw_curdir
" only update match list if current directory isn't the same as before
let s:explore_prvdir = b:netrw_curdir
let s:explore_match = ""
let dirlen = strlen(b:netrw_curdir)
if b:netrw_curdir !~ '/'$'
let dirlen= dirlen + 1
endif
let prvfname= ""
for fname in w:netrw_explore_list
" call Decho("fname<".fname.">")
"COMBAK -- g:netrw_markfileesc.""g:netrw_markfileesc."" ???
if fname =~ '^'.b:netrw_curdir
if s:explore_match == ""
let s:explore_match= '\<'.escape(strpart(fname,dirlen),g:netrw_markfileesc).\>'
else
let s:explore_match= s:explore_match.\|\<'.escape(strpart(fname,dirlen),g:netrw_markfileesc).\>'
endif
elseif fname !~ '^/' && fname != prvfname
if s:explore_match == ""
let s:explore_match= '\<'.escape(fname,g:netrw_markfileesc).\>'
else
let s:explore_match= s:explore_match.\|\<'.escape(fname,g:netrw_markfileesc).\>'
endif
endif
let prvfname= fname
endifor
" call Decho("explore_match<".s:explore_match.">")
exe "2match netrwMarkFile /".s:explore_match."/ "
endif
echo "<s-up>==Pexplore <s-down>==Nexplore"
else
2match none
if exists("s:explore_match") | unlet s:explore_match | endif
if exists("s:explore_prvdir") | unlet s:explore_prvdir | endif
echo " "
" call Decho("cleared explore match list")
endif

silent! let @* = keepregstar
silent! let @+ = keepregstar
silent! let @/ = keepregslash

```

```

" call Dret("netrw#Explore : @/<".@/.">")
endfun

" -----
" s:NetrwHide: this function is invoked by the "a" map for browsing {{{2
"   and switches the hiding mode. The actual hiding is done by
"   s:NetrwListHide().
"       g:netrw_hide= 0: show all
"           1: show not-hidden files
"           2: show hidden files only
fun! s:NetrwHide(islocal)
" call Dfunc("NetrwHide(islocal=".a:islocal.") g:netrw_hide=".g:netrw_hide)
let svpos= netrw#NetrwSavePosn()

if exists("s:netrwmarkfilelist_{bufnr('%')}")
" call Decho(((g:netrw_hide == 1)? "unhide" : "hide")." files in
markfilelist<".string(s:netrwmarkfilelist_{bufnr("%")}).">")
" call Decho("g:netrw_list_hide<".g:netrw_list_hide.">")

" hide the files in the markfile list
for fname in s:netrwmarkfilelist_{bufnr("%")}
" call Decho("match(g:netrw_list_hide<".g:netrw_list_hide.">
fname<<'\.fname.\>>)='.match(g:netrw_list_hide,\<'\.fname.\>')." isk=".&isk)
if match(g:netrw_list_hide,\<'\.fname.\>') != -1
" remove fname from hiding list
let g:netrw_list_hide= substitute(g:netrw_list_hide,'\<'.escape(fname,g:netrw_fname_escape).\>..',';")
let g:netrw_list_hide= substitute(g:netrw_list_hide,',,',';g')
let g:netrw_list_hide= substitute(g:netrw_list_hide,'^,\|,$',';")
" call Decho("unhide: g:netrw_list_hide<".g:netrw_list_hide.">")
else
" append fname to hiding
list
if exists("g:netrw_list_hide") && g:netrw_list_hide != ""
let g:netrw_list_hide= g:netrw_list_hide.\<'.escape(fname,g:netrw_fname_escape).\>'
else
let g:netrw_list_hide= "\<'.escape(fname,g:netrw_fname_escape).\>'
endif
" call Decho("hide: g:netrw_list_hide<".g:netrw_list_hide.">")
endif
endfor
call s:NetrwUnmarkList(bufnr("%"),b:netrw_curdir)
let g:netrw_hide= 1

else

" switch between show-all/show-not-hidden/show-hidden
let g:netrw_hide=(g:netrw_hide+1)%3
exe "norm! 0"

```

```

if g:netrw_hide && g:netrw_list_hide == ""
  call netrw#ErrorMsg(s:WARNING,"your hiding list is empty!",49)
"  call Dret("NetrwHide")
  return
endif
endif

call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,'./'))
call netrw#NetrwRestorePosn(svpos)
" call Dret("NetrwHide")
endfun

" -----
" s:NetrwHidden: invoked by "gh" {{{2
fun!
s:NetrwHidden(islocal)
" call Dfunc("s:NetrwHidden()")
" save current position
let svpos= netrw#NetrwSavePosn()

if g:netrw_list_hide =~ \(^\|,\|)\|^\|s\|s\|)\|zs\|.\|S\|+'
" remove pattern from hiding list
let g:netrw_list_hide= substitute(g:netrw_list_hide, \(^\|,\|)\|^\|s\|s\|)\|zs\|.\|S\|+',")
elseif strlen(g:netrw_list_hide) >= 1
let g:netrw_list_hide= g:netrw_list_hide . ', \(^\|s\|s\|)\|zs\|.\|S\|+'
else
let g:netrw_list_hide= \(^\|s\|s\|)\|zs\|.\|S\|+'
endif

" refresh screen and return to saved position
call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,'./'))
call netrw#NetrwRestorePosn(svpos)
" call Dret("s:NetrwHidden")
endfun

" -----
" s:NetrwHome: this function determines a "home" for saving bookmarks and history {{{2
fun! s:NetrwHome()
" call Dfunc("s:NetrwHome()")
if exists("g:netrw_home")
let home= g:netrw_home
else
" go to
vim plugin home
for home in split(&rtpl,') + ["]
if isdirectory(home) && filewritable(home) | break | endif
let basehome= substitute(home, '[^\\]\.vim$', "",)
if isdirectory(basehome) && filewritable(basehome)

```

```

    let home= basehome."/.vim"
    break
endif
endfor
if home == ""
    " just pick the first directory
"   call Decho("just pick first directory in &rtp")
    let home= substitute(&rtp,','.*$',",")
endif
if (has("win32") || has("win95") || has("win64") || has("win16"))
    let home= substitute(home, '/', '\\', 'g')
endif
endif
" insure that the home directory exists
" call Decho("picked home<".home.">")
if !isdirectory(home)
    if exists("g:netrw_mkdir")
"   call Decho("home<".home."> isn't a directory -- making it now with g:netrw_mkdir<".g:netrw_mkdir.">")
"   call Decho("system("g:netrw_mkdir." ".s:Escape(home).")")
        call system(g:netrw_mkdir." ".s:Escape(home))
    else
"   call Decho("home<".home.">
isn't a directory -- making it now with mkdir()")
        call mkdir(home)
    endif
endif
let g:netrw_home= home
" call Dret("s:NetrwHome <".home.">")
return home
endfun

" -----
" s:NetrwLeftmouse: handles the <leftmouse> when in a netrw browsing window {{{2
fun! s:NetrwLeftmouse(islocal)
" call Dfunc("s:NetrwLeftmouse(islocal=".a:islocal.")")
if a:islocal
    if exists("b:netrw_curdir")
        call netrw#LocalBrowseCheck(s:NetrwBrowseChgDir(1,s:NetrwGetWord()))
    endif
else
    if exists("b:netrw_curdir")
        call s:NetrwBrowse(0,s:NetrwBrowseChgDir(0,s:NetrwGetWord()))
    endif
endif
" call Dret("s:NetrwLeftmouse")
endfun

" -----

```

```

" s:NetrwListHide: uses [range]g~...~d to delete files that match comma {{{2
" separated patterns given in g:netrw_list_hide
fun! s:NetrwListHide()
" call Dfunc("NetrwListHide() hide=".g:netrw_hide."
listhide<"g:netrw_list_hide.">")

" find a character not in the "hide" string to use as a separator for :g and :v commands
" How-it-works: take the hiding command, convert it into a range. Duplicate
" characters don't matter. Remove all such characters from the '/~...90'
" string. Use the first character left as a separator character.
let listhide= g:netrw_list_hide
let sep = strpart(substitute('/~@#$$%^&*{ } ; , < . > ? | 1234567890', ['\escape(listhide, '-' ^ \).'], '', 'ge'), 1, 1)
" call Decho("sep=".sep)

while listhide != ""
if listhide =~ ','
let hide = substitute(listhide, ',.*$', ',e')
let listhide = substitute(listhide, '^.\{-},\{.*\}$', '\1', 'e')
else
let hide = listhide
let listhide = ""
endif

" Prune the list by hiding any files which match
if g:netrw_hide == 1
" call Decho("hiding<".hide."> listhide<".listhide.">")
exe 'silent keepjumps '.w:netrw_bannercnt.',$g'.sep.hide.sep.'d'
elseif
g:netrw_hide == 2
" call Decho("showing<".hide."> listhide<".listhide.">")
exe 'silent keepjumps '.w:netrw_bannercnt.',$g'.sep.hide.sep.'s@^@ /-KEEP-/ @'
endif
endwhile
if g:netrw_hide == 2
exe 'silent keepjumps '.w:netrw_bannercnt.',$v@^ /-KEEP-/ @d'
exe 'silent keepjumps '.w:netrw_bannercnt.',$s@^%( /-KEEP-/ \)|+@ @e'
endif

" call Dret("NetrwListHide")
endfun

" -----
" NetrwHideEdit: allows user to edit the file/directory hiding list
fun! s:NetrwHideEdit(islocal)
" call Dfunc("NetrwHideEdit(islocal=".a:islocal.")")

" save current cursor position
let svpos= netrw#NetrwSavePosn()

```

```

" get new hiding list from user
call inputsave()
let newhide= input("Edit Hiding List: ",g:netrw_list_hide)
call inputrestore()
let g:netrw_list_hide= newhide
" call Decho("new g:netrw_list_hide<"g:netrw_list_hide.">")

" refresh the listing
silent call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,"./"))

" restore cursor position
call netrw#NetrwRestorePosn(svpos)

" call Dret("NetrwHideEdit")
endfun

" -----
" NetSortSequence: allows user to edit the sorting sequence
fun! s:NetSortSequence(islocal)
" call Dfunc("NetSortSequence(islocal="a:islocal.")")

let svpos= netrw#NetrwSavePosn()
call inputsave()
let newsortseq= input("Edit Sorting Sequence: ",g:netrw_sort_sequence)
call inputrestore()

" refresh the listing
let g:netrw_sort_sequence= newsortseq
call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,'./'))
call netrw#NetrwRestorePosn(svpos)

" call Dret("NetSortSequence")
endfun

" -----
" s:NetrwMakeDir: this function makes a directory (both local and remote) {{{2
fun! s:NetrwMakeDir(usrhost)
" call Dfunc("NetrwMakeDir(usrhost<"a:usrhost.">")

" get name of new directory from user. A bare <CR> will skip.
" if its currently a directory, also request will be skipped, but with
" a message.
call inputsave()
let newdirname= input("Please give directory name: ")
call inputrestore()
" call Decho("newdirname<"newdirname.">")

```

```

if newdirname == ""
" call Dret("NetrwMakeDir : user aborted with bare <cr>")
return
endif

if a:usrhost == ""
" call Decho("local mkdir")

" Local mkdir:
" sanity checks
let fullnewdir= b:netrw_curdir.'/'.newdirname
" call Decho("fullnewdir<".fullnewdir.">")
if isdirectory(fullnewdir)
if !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:WARNING,"<".newdirname."> is already a directory!",24)
endif
" call Dret("NetrwMakeDir : directory<".newdirname."> exists previously")
return
endif
if s:FileReadable(fullnewdir)
if !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:WARNING,"<".newdirname."> is already a file!",25)
endif
" call Dret("NetrwMakeDir : file<".newdirname."> exists previously")
return
endif

" requested new local directory is neither a pre-existing file or
" directory, so make it!
if exists("*mkdir")
call mkdir(fullnewdir,"p")
else
let netrw_origdir= s:NetrwGetcwd(1)
exe 'keepjumps lcd '.fnameescape(b:netrw_curdir)
" call Decho("netrw_origdir<".netrw_origdir.">: lcd b:netrw_curdir<".fnameescape(b:netrw_curdir).">")
" call Decho("exe silent! !".g:netrw_local_mkdir.' '.shellescape(newdirname,1))
exe "silent! !".g:netrw_local_mkdir.' '.shellescape(newdirname,1)
if !g:netrw_keepdir
exe 'keepjumps lcd '.fnameescape(netrw_origdir)
" call Decho("netrw_keepdir=".g:netrw_keepdir.": keepjumps lcd ".fnameescape(netrw_origdir)."
getcwd<".getcwd().">")
endif
endif

if v:shell_error == 0
" refresh listing
" call Decho("refresh listing")
let svpos= netrw#NetrwSavePosn()

```



```

call s:NetrwRefresh(1,s:NetrwBrowseChgDir(1,./))
call netrw#NetrwRestorePosn(svpos)
elseif !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:ERROR,"unable to make directory<" .newdirname.">",26)
endif
" redraw!

elseif !exists("b:netrw_method") || b:netrw_method == 4
" Remote mkdir:
" call Decho("remote mkdir")
let mkdircmd = s:MakeSshCmd(g:netrw_mkdir_cmd)
let newdirname= substitute(b:netrw_curdir,'^\%(\{-\}\)\{3\}(\.*\)$','1',".newdirname)
" call Decho("exe silent! !" .mkdircmd." ".shellescape(newdirname,1))
exe "silent! !" .mkdircmd." ".shellescape(newdirname,1)
if v:shell_error == 0
" refresh listing
let svpos= netrw#NetrwSavePosn()
call s:NetrwRefresh(0,s:NetrwBrowseChgDir(0,./))
call netrw#NetrwRestorePosn(svpos)
elseif !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:ERROR,"unable to make directory<" .newdirname.">",27)
endif
" redraw!

elseif b:netrw_method == 2
" COMBAK -- future work
call netrw#ErrorMsg(s:ERROR,"making
directories via ftp not currently supported",68)
elseif b:netrw_method == 3
" COMBAK -- future work
call netrw#ErrorMsg(s:ERROR,"making directories via ftp not currently supported",68)
endif

" call Dret("NetrwMakeDir")
endfun

" -----
" s:NetrwMarkFile: (invoked by mf) This function is used to both {{2
" mark and unmark files. If a markfile list exists,
" then the rename and delete functions will use it instead
" of whatever may happen to be under the cursor at that
" moment. When the mouse and gui are available,
" shift-leftmouse may also be used to mark files.
"
" Creates two lists
" s:netrwmarkfilelist -- holds complete paths to all marked files
" s:netrwmarkfilelist_# -- holds list of marked files in current-buffer's directory (##=bufnr())
"

```

```

" Creates a marked file match
string
" s:netrwmarkfilemtch_# -- used with 2match to display marked files
"
" Creates a buffer version of islocal
" b:netrw_islocal
"
fun! s:NetrwMarkFile(islocal,fname)
" call Dfunc("s:NetrwMarkFile(islocal=".a:islocal." fname<"a:fname.">)")
let curbufnr= bufnr("%")
let curdir = b:netrw_curdir
if exists("s:netrwmarkfilelist_{curbufnr}")
" markfile list exists
" call Decho("starting s:netrwmarkfilelist_{curbufnr}<".string(s:netrwmarkfilelist_{curbufnr}).">")
" call Decho("starting s:netrwmarkfilemtch_{curbufnr}<".s:netrwmarkfilemtch_{curbufnr}.">")
let b:netrw_islocal= a:islocal

if index(s:netrwmarkfilelist_{curbufnr},a:fname) == -1
" append filename to buffer's markfilelist
" call Decho("append filename<"a:fname."> to local
markfilelist_".curbufnr."<".string(s:netrwmarkfilelist_{curbufnr}).">")
call add(s:netrwmarkfilelist_{curbufnr},a:fname)
let s:netrwmarkfilemtch_{curbufnr}=
s:netrwmarkfilemtch_{curbufnr}.\|<'escape(a:fname,g:netrw_markfileesc.'"".g:netrw_markfileesc.'"".)\>'

else
" remove filename from buffer's markfilelist
" call Decho("remove filename<"a:fname."> from local
markfilelist_".curbufnr."<".string(s:netrwmarkfilelist_{curbufnr}).">")
call filter(s:netrwmarkfilelist_{curbufnr},'v:val != a:fname')
if s:netrwmarkfilelist_{curbufnr} == []
" local markfilelist is empty; remove it entirely
" call Decho("markfile list now empty")
call s:NetrwUnmarkList(curbufnr,curdir)
else
" rebuild match list to display markings correctly
" call Decho("rebuild s:netrwmarkfilemtch_".curbufnr)
let s:netrwmarkfilemtch_{curbufnr}= ""
let first = 1
for fname in s:netrwmarkfilelist_{curbufnr}
if first
let s:netrwmarkfilemtch_{curbufnr}=
s:netrwmarkfilemtch_{curbufnr}.\|<'escape(fname,g:netrw_markfileesc.'"".g:netrw_markfileesc.'"".)\>'
else
let s:netrwmarkfilemtch_{curbufnr}=
s:netrwmarkfilemtch_{curbufnr}.\|<'escape(fname,g:netrw_markfileesc.'"".g:netrw_markfileesc.'"".)\>'
endif
let first= 0

```

```

    endfor
"   call Decho("ending s:netrwmarkfilelist_"curbufnr."<"string(s:netrwmarkfilelist_{curbufnr}).">")
"   call Decho("ending s:netrwmarkfilemtch_"curbufnr."<"s:netrwmarkfilemtch_{curbufnr}.">")
    endif
endif

else
" initialize new markfilelist

" call Decho("add fname<"a:fname."> to new markfilelist_"curbufnr)
let s:netrwmarkfilelist_{curbufnr}= []
call add(s:netrwmarkfilelist_{curbufnr},a:fname)
" call Decho("ending s:netrwmarkfilelist_"curbufnr"<"string(s:netrwmarkfilelist_{curbufnr}).">")

" build initial markfile matching pattern
if a:fname =~ '/'$'
    let s:netrwmarkfilemtch_{curbufnr}= '\<'escape(a:fname,g:netrw_markfileesc)
else
    let s:netrwmarkfilemtch_{curbufnr}= '\<'escape(a:fname,g:netrw_markfileesc).\>'
endif
" call Decho("ending s:netrwmarkfilemtch_"curbufnr."<"s:netrwmarkfilemtch_{curbufnr}.">")
endif

" handle global markfilelist
if exists("s:netrwmarkfilelist")
    let dname= s:ComposePath(b:netrw_curdir,a:fname)
    if index(s:netrwmarkfilelist,dname) == -1
        " append new filename to global markfilelist
        call add(s:netrwmarkfilelist,s:ComposePath(b:netrw_curdir,a:fname))
    " call Decho("append filename<"a:fname."> to global markfilelist<"string(s:netrwmarkfilelist).">")
    else
        " remove new filename from global markfilelist
    " call Decho("filter("string(s:netrwmarkfilelist)."v:val != '"dname."")")
        call filter(s:netrwmarkfilelist,'v:val != '"dname."")
    " call Decho("ending s:netrwmarkfilelist <"string(s:netrwmarkfilelist).">")
        if s:netrwmarkfilelist == []
            unlet s:netrwmarkfilelist
        endif
    endif
else
" initialize new global-directory markfilelist
let s:netrwmarkfilelist= []
call add(s:netrwmarkfilelist,s:ComposePath(b:netrw_curdir,a:fname))
" call
Decho("init s:netrwmarkfilelist<"string(s:netrwmarkfilelist).">")
endif

" set up 2match'ing to netrwmarkfilemtch list

```

```

if exists("s:netrwmarkfilemtch_{curbufnr}") && s:netrwmarkfilemtch_{curbufnr} != ""
" call Decho("exe 2match netrwMarkFile /".s:netrwmarkfilemtch_{curbufnr}."/")
exe "2match netrwMarkFile /".s:netrwmarkfilemtch_{curbufnr}."/"
else
" call Decho("2match none")
2match none
endif
" call Dret("s:NetrwMarkFile : netrwmarkfilelist_{curbufnr}."<.(exists("s:netrwmarkfilelist_{curbufnr}")?
string(s:netrwmarkfilelist_{curbufnr}) : " doesn't exist").">")
endfun

" -----
" s:NetrwMarkFileCompress: (invoked by mz) This function is used to {{2
"         compress/decompress files using the programs
"         in g:netrw_compress and g:netrw_uncompress,
"         using g:netrw_compress_suffix to know which to
"
"         do. By default:
"         g:netrw_compress      = "gzip"
"         g:netrw_decompress    = { ".gz" : "gunzip" , ".bz2" : "bunzip2" , ".zip" : "unzip" , ".tar" : "tar -
xf" }
fun! s:NetrwMarkFileCompress(islocal)
" call Dfunc("s:NetrwMarkFileCompress(islocal=".a:islocal.")")
let svpos = netrw#NetrwSavePosn()
let curdir = b:netrw_curdir
let curbufnr = bufnr("%")

if exists("s:netrwmarkfilelist_{curbufnr}") && exists("g:netrw_compress") && exists("g:netrw_decompress")
for fname in s:netrwmarkfilelist_{curbufnr}
" for every filename in the marked list
for sfx in sort(keys(g:netrw_decompress))
if fname =~ '\.sfx.$'
" fname has a suffix indicating that its compressed; apply associated decompression routine
let exe= s:WinPath(g:netrw_decompress[sfx])
" call Decho("fname<".fname."> is compressed so decompress with <".exe.">")
if a:islocal
if g:netrw_keepdir
let
fname= shellescape(s:ComposePath(curdir,fname))
endif
else
let fname= shellescape(b:netrw_curdir.fname,1)
endif
if executable(exe)
if a:islocal
call system(exe." ".fname)
else
call s:RemoteSystem(exe." ".fname)

```

```

endif
else
  call netrw#ErrorMsg(s:WARNING,"unable to apply<".exe."> to file<".fname.">",50)
endif
break
endif
endfor
if exists("exe")
  unlet exe
elseif a:islocal
  " fname not a compressed file, so compress it
  call system(s:WinPath(g:netrw_compress)." ".shellescape(s:ComposePath(b:netrw_curdir,fname)))
else
  " fname not a compressed file, so compress it
  call s:RemoteSystem(s:WinPath(g:netrw_compress)." ".shellescape(fname))
endif
endfor
call s:NetrwUnmarkList(curbufnr,curdir)
call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,'/'))
call netrw#NetrwRestorePosn(svpos)
endif
" call Dret("s:NetrwMarkFileCompress")
endfun

"
-----
" s:NetrwMarkFileCopy: (invoked by mc) copy marked files to target {{{2
"       If no marked files, then set up directory as the
"       target. Currently does not support copying entire
"       directories. Uses the local-buffer marked file list.
"       Returns 1=success (used by NetrwMarkFileMove())
"       0=failure
fun! s:NetrwMarkFileCopy(islocal)
"  call Dfunc("s:NetrwMarkFileCopy(islocal=" .a:islocal.") target<".(exists("s:netrwmtgt")? s:netrwmtgt : '---').">")

" sanity checks
if !exists("s:netrwmarkfilelist_{bufnr('%')}") || empty(s:netrwmarkfilelist_{bufnr('%')})
  call netrw#ErrorMsg(2,"there are no marked files in this window (:help netrw-mf)",66)
"  call Dret("s:NetrwMarkFileCopy 0")
  return 0
endif
" call Decho("sanity chk passed: s:netrwmarkfilelist_".bufnr('%').".<".string(s:netrwmarkfilelist_{bufnr('%')})
if !exists("s:netrwmtgt")
  call netrw#ErrorMsg(2,"your marked file target is empty! (:help netrw-mt)",67)
"  call Dret("s:NetrwMarkFileCopy 0")
  return 0
endif
" call Decho("sanity chk passed: s:netrwmtgt<".s:netrwmtgt.">")

```

```

let curdir = b:netrw_curdir
let curbufnr = bufnr("%")

if a:islocal && s:netrwmtgt_islocal
" Copy marked files, local directory to local directory
" call Decho("copy from local to local")
let args= join(map(deepcopy(s:netrwmarkfilelist_{bufnr('%')}),"shellescape(b:netrw_curdir.\\"^\".v:val)"))
" call Decho("system(\".g:netrw_localcopycmd.\" ".args." ".shellescape(s:netrwmtgt).")")
call system(s:WinPath(g:netrw_localcopycmd)." ".args." ".shellescape(s:netrwmtgt))

elseif a:islocal && !s:netrwmtgt_islocal
" Copy marked files, local directory to remote directory
" call Decho("copy from local to remote")
call s:NetrwUpload(s:netrwmarkfilelist_{bufnr('%')},s:netrwmtgt)

elseif !a:islocal && s:netrwmtgt_islocal
" call Decho("copy from remote to local")
call netrw#NetrwObtain(a:islocal,s:netrwmarkfilelist_{bufnr('%')},s:netrwmtgt)

elseif !a:islocal && !s:netrwmtgt_islocal
" call Decho("copy from remote to remote")
let curdir = getcwd()
let tmpdir = s:GetTempfile("")
if tmpdir !~ '/'
let tmpdir= curdir."/".tmpdir
endif
if exists("*mkdir")
call mkdir(tmpdir)
else
exe "silent! !".g:netrw_local_mkdir.' '.shellescape(tmpdir,1)
endif
if isdirectory(tmpdir)
exe "keepjumps lcd ".fnameescape(tmpdir)
call netrw#NetrwObtain(a:islocal,s:netrwmarkfilelist_{bufnr('%')},tmpdir)
let localfiles= map(deepcopy(s:netrwmarkfilelist_{bufnr('%')}),'substitute(v:val,"^.*"/,"", ""))
call s:NetrwUpload(localfiles,s:netrwmtgt)
if getcwd() == tmpdir
for fname in s:netrwmarkfilelist_{bufnr('%')}
call s:NetrwDelete(fname)
endfor
exe "keepjumps
lcd ".fnameescape(curdir)
exe "silent! !".g:netrw_local_rmdir." ".shellescape(tmpdir,1)
else
exe "keepjumps lcd ".fnameescape(curdir)
endif
endif
endif
endif

```

```

" -----
" cleanup
" -----
" call Decho("cleanup")

" remove markings from local buffer
call s:NetrwUnmarkList(curbufnr,curdir)

" refresh buffers
if !s:netrwmftgt_islocal
  call s:NetrwRefreshDir(s:netrwmftgt_islocal,s:netrwmftgt)
endif
if a:islocal
  call s:NetrwRefreshDir(a:islocal,b:netrw_curdir)
endif
if g:netrw_fastbrowse <= 1
  call s:LocalBrowseShellCmdRefresh()
endif

" call Dret("s:NetrwMarkFileCopy 1")
return 1
endfun

" -----
" s:NetrwMarkFileDiff: (invoked by md) This function is used to {{{2
"      invoke vim's diff mode on the marked files.
"      Either two or three files can be so handled.
"      Uses the global marked
file list.
fun! s:NetrwMarkFileDiff(islocal)
" call Dfunc("s:NetrwMarkFileDiff(islocal=" . a:islocal . ") b:netrw_curdir<" . b:netrw_curdir . ">")
let curbufnr= bufnr("%")

if exists("s:netrwmarkfilelist_{curbufnr}")
  let cnt = 0
  let curdir = b:netrw_curdir
  for fname in s:netrwmarkfilelist
    let cnt= cnt + 1
    if cnt == 1
"    call Decho("diffthis: fname<".fname.">")
      exe "e ".fnameescape(fname)
      diffthis
    elseif cnt == 2 || cnt == 3
      vsplit
      wincmd l
"    call Decho("diffthis: ".fname)
      exe "e ".fnameescape(fname)

```

```

diffthis
else
break
endif
endifor
call s:NetrwUnmarkList(curbufnr,curdir)
endif

" call Dret("s:NetrwMarkFileDiff")
endfun

" -----
" s:NetrwMarkFileEdit: (invoked by me) put marked files on arg list and start editing them {{{2
"           Uses global markfilelist
fun! s:NetrwMarkFileEdit(islocal)
" call
Dfunc("s:NetrwMarkFileEdit(islocal=".a:islocal.")")

let curdir = b:netrw_curdir
let curbufnr = bufnr("%")
if exists("s:netrwmarkfilelist_{curbufnr}")
call s:SetRexDir(a:islocal,curdir)
let flist= join(map(deepcopy(s:netrwmarkfilelist), "fnameescape(v:val)"))
" unmark markedfile list
" call s:NetrwUnmarkList(curbufnr,curdir)
call s:NetrwUnmarkAll()
" call Decho("exe silent args ".flist)
exe "silent args ".flist
endif

" call Dret("s:NetrwMarkFileEdit")
endfun

" -----
" s:NetrwMarkFileExe: (invoked by mx) execute arbitrary command on marked files, one at a time {{{2
"           Uses the local marked-file list.
fun! s:NetrwMarkFileExe(islocal)
" call Dfunc("s:NetrwMarkFileExe(islocal=".a:islocal.")")
let svpos = netrw#NetrwSavePosn()
let curdir = b:netrw_curdir
let curbufnr = bufnr("%")

if exists("s:netrwmarkfilelist_{curbufnr}")
" get
the command
call inputsave()
let cmd= input("Enter command: ", "", "file")
call inputrestore()

```



```

" call Decho("cmd<".cmd.">")

" apply command to marked files. Substitute: filename -> %
" If no %, then append a space and the filename to the command
for fname in s:netrwmarkfilelist_{curbufnr}
if a:islocal
if g:netrw_keepdir
let fname= shellescape(s:WinPath(s:ComposePath(curdir,fname)))
endif
else
let fname= shellescape(s:WinPath(b:netrw_curdir.fname))
endif
if cmd =~ '%'
let xcmd= substitute(cmd,'% ',fname,'g')
else
let xcmd= cmd.' '.fname
endif
if a:islocal
" call Decho("local: xcmd<".xcmd.">")
let ret= system(xcmd)
else
" call Decho("remote: xcmd<".xcmd.">")
let ret= s:RemoteSystem(xcmd)
endif
if v:shell_error < 0
call netrw#ErrorMsg(s:ERROR,"command<".xcmd."> failed, aborting",54)
break
else
echo ret
endif
endifor

" unmark marked file list
call s:NetrwUnmarkList(curbufnr,curdir)

" refresh the listing
call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,'/'))
call netrw#NetrwRestorePosn(svpos)
else
call netrw#ErrorMsg(s:ERROR,"no files marked!",59)
endif

" call Dret("s:NetrwMarkFileExe")
endfun

" -----
" s:NetrwMarkHideSfx: (invoked by mh) (un)hide files having same suffix

```

```

"          as the marked file(s) (toggles suffix presence)
"          Uses the local marked file list.
fun! s:NetrwMarkHideSfx(islocal)
" call Dfunc("s:NetrwMarkHideSfx(islocal=".a:islocal.")")
let svpos = netrw#NetrwSavePosn()
let curbufnr = bufnr("%")

" s:netrwmarkfilelist_{curbufnr}: the List of marked files
if exists("s:netrwmarkfilelist_{curbufnr}")

for fname in s:netrwmarkfilelist_{curbufnr}
" call Decho("s:NetrwMarkFileCopy: fname<".fname.">")
" construct suffix
pattern
if fname =~ \.
let sfxpat= "^.*.".substitute(fname, '^.*\(\.[^ ]+\)$', '1', '')
else
let sfxpat= '^%(\%(\.\.))@!\.)*$'
endif
" determine if its in the hiding list or not
let inhidelist= 0
if g:netrw_list_hide != ""
let itemnum = 0
let hidelist= split(g:netrw_list_hide, ',')
for hidepat in hidelist
if sfxpat == hidepat
let inhidelist= 1
break
endif
let itemnum= itemnum + 1
endfor
endif
" call Decho("fname<".fname."> inhidelist=".inhidelist." sfxpat<".sfxpat.">")
if inhidelist
" remove sfxpat from list
call remove(hidelist,itemnum)
let g:netrw_list_hide= join(hidelist, ',')
elseif g:netrw_list_hide != ""
" append sfxpat to non-empty list
let g:netrw_list_hide= g:netrw_list_hide.", ".sfxpat
else
" set hiding list to sfxpat
let g:netrw_list_hide= sfxpat
endif
endif
endfor

"

```

```

refresh the listing
call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,'/'))
call netrw#NetrwRestorePosn(svpos)
else
call netrw#ErrorMsg(s:ERROR,"no files marked!",59)
endif

" call Dret("s:NetrwMarkHideSfx")
endfun

" -----
" s:NetrwMarkFileGrep: (invoked by mg) This function applies vimgrep to marked files {{{2
"     Uses the global markfilelist
fun! s:NetrwMarkFileGrep(islocal)
" call Dfunc("s:NetrwMarkFileGrep(islocal=".a:islocal.")")
let svpos = netrw#NetrwSavePosn()
let curbufnr = bufnr("%")

if exists("s:netrwmarkfilelist")
" call Decho("s:netrwmarkfilelist".string(s:netrwmarkfilelist).">")
let netrwmarkfilelist= join(map(deepcopy(s:netrwmarkfilelist), "fnameescape(v:val)"))
call s:NetrwUnmarkAll()

" ask user for pattern
call inputsave()
let pat= input("Enter pattern: ", "")
call inputrestore()
if pat !~ '\s'
if
pat !~ '^/'
let pat= '/.pat.'
endif
let pat= ".pat"
endif

" use vimgrep for both local and remote
" call Decho("exe vimgrep".pat." ".netrwmarkfilelist)
exe "vimgrep".pat." ".netrwmarkfilelist

2match none
call netrw#NetrwRestorePosn(svpos)
endif

" call Dret("s:NetrwMarkFileGrep")
endfun

" -----
" s:NetrwMarkFileMove: (invoked by mm) execute arbitrary command on marked files, one at a time {{{2

```

```

"         uses the global marked file list
"         s:netrwmfloc= 0: target directory is remote
"         = 1: target directory is local
fun! s:NetrwMarkFileMove(islocal)
" call Dfunc("s:NetrwMarkFileMove(islocal=".a:islocal.")")
let curdir = b:netrw_curdir
let curbufnr = bufnr("%")

" sanity check
if !exists("s:netrwmarkfilelist_{bufnr('%')}") || empty(s:netrwmarkfilelist_{bufnr('%')})
  call netrw#ErrorMsg(2,"there
are no marked files in this window (:help netrw-mf)",66)
" call Dret("s:NetrwMarkFileMove")
  return
endif
" call Decho("sanity chk passed: s:netrwmarkfilelist_".bufnr('%')."<".string(s:netrwmarkfilelist_{bufnr('%')}))
if !exists("s:netrwmtgt")
  call netrw#ErrorMsg(2,"your marked file target is empty! (:help netrw-mt)",67)
" call Dret("s:NetrwMarkFileCopy 0")
  return 0
endif
" call Decho("sanity chk passed: s:netrwmtgt<".s:netrwmtgt.">")

if a:islocal && s:netrwmtgt_islocal
" move: local -> local
" call Decho("move from local to local")
" call Decho("(s:NetrwMarkFileMove) local to local move")
if executable(g:netrw_localmovecmd)
  for fname in s:netrwmarkfilelist_{bufnr("%")}
" call Decho("system(".g:netrw_localmovecmd." ".shellescape(fname)." ".shellescape(s:netrwmtgt).)")")
  let ret= system(g:netrw_localmovecmd." ".shellescape(fname)." ".shellescape(s:netrwmtgt))
  if v:shell_error < 0
    call
netrw#ErrorMsg(s:ERROR,"command<".g:netrw_localmovecmd."> failed, aborting",54)
    break
  endif
endfor
else
  call netrw#ErrorMsg(s:ERROR,"command<".g:netrw_localmovecmd."> is not executable!",57)
endif

elseif a:islocal && !s:netrwmtgt_islocal
" move: local -> remote
" call Decho("move from local to remote")
" call Decho("copy")
let mflist= s:netrwmarkfilelist_{bufnr("%")}
call s:NetrwMarkFileCopy(a:islocal)
" call Decho("remove")

```

```

for fname in mflist
  let barefname = substitute(fname, '^(\.*^)(\{-}\)$', '\2,')
  let ok = s:NetrwLocalRmFile(b:netrw_curdir,barefname,1)
endfor
unlet mflist

elseif !a:islocal && s:netrwmtgt_islocal
  " move: remote -> local
  " call Decho("move from remote to local")
  " call Decho("copy")
  let mflist= s:netrwmarkfilelist_{bufnr("%")}
  call s:NetrwMarkFileCopy(a:islocal)
  " call Decho("remove")
  for fname in mflist
    let barefname = substitute(fname, '^(\.*^)(\{-}\)$', '\2,')
    let ok = s:NetrwRemoteRmFile(b:netrw_curdir,barefname,1)
  endfor
  unlet mflist

elseif !a:islocal && !s:netrwmtgt_islocal
  " move: remote -> remote
  " call Decho("move from remote to remote")
  " call Decho("copy")
  let mflist= s:netrwmarkfilelist_{bufnr("%")}
  call s:NetrwMarkFileCopy(a:islocal)
  " call Decho("remove")
  for fname in mflist
    let barefname = substitute(fname, '^(\.*^)(\{-}\)$', '\2,')
    let ok = s:NetrwRemoteRmFile(b:netrw_curdir,barefname,1)
  endfor
  unlet mflist
endif

" -----
" cleanup
" -----
" call Decho("cleanup")

" remove markings from local buffer
call s:NetrwUnmarkList(curbufnr,curdir) " remove markings from local buffer

" refresh buffers
if !s:netrwmtgt_islocal
  call s:NetrwRefreshDir(s:netrwmtgt_islocal,s:netrwmtgt)
endif
if a:islocal
  call s:NetrwRefreshDir(a:islocal,b:netrw_curdir)
endif

```

```

if g:netrw_fastbrowse
<= 1
  call s:LocalBrowseShellCmdRefresh()
endif

" call Dret("s:NetrwMarkFileMove")
endfun

" -----
" s:NetrwMarkFilePrint: (invoked by mp) This function prints marked files {{{2
"         using the hardcopy command. Local marked-file list only.
fun! s:NetrwMarkFilePrint(islocal)
" call Dfunc("s:NetrwMarkFilePrint(islocal=".a:islocal.")")
let curbufnr= bufnr("%")
if exists("s:netrwmarkfilelist_{curbufnr}")
let netrwmarkfilelist = s:netrwmarkfilelist_{curbufnr}
let curdir      = b:netrw_curdir
call s:NetrwUnmarkList(curbufnr,curdir)
for fname in netrwmarkfilelist
if a:islocal
if g:netrw_keepdir
let fname= s:ComposePath(curdir,fname)
endif
else
let fname= curdir.fname
endif
1split
" the autocmds will handle both local and remote files
" call Decho("exe silent e ".escape(fname,' '))
exe "silent
e ".fnameescape(fname)
" call Decho("hardcopy")
hardcopy
q
endifor
2match none
endif
" call Dret("s:NetrwMarkFilePrint")
endfun

" -----
" s:NetrwMarkFileRegexp: (invoked by mr) This function is used to mark {{{2
"         files when given a regexp (for which a prompt is
"         issued).
fun! s:NetrwMarkFileRegexp(islocal)
" call Dfunc("s:NetrwMarkFileRegexp(islocal=".a:islocal.")")

" get the regular expression

```

```

call inputsave()
let regexp= input("Enter regexp: ", "", "file")
call inputrestore()

if a:islocal
" get the matching list of files using local glob()
" call Decho("handle local regexp")
let dirname = escape(b:netrw_curdir,g:netrw_glob_escape)
let filelist = glob(s:ComposePath(dirname,regexp))
if filelist != ""
let filelist= filelist."\n"
endif

" mark the list of files
while filelist != ""

if filelist =~ '\n'
let filename = substitute(filelist, '\n.*$', '', 'e')
let filelist = substitute(filelist, '^.\{-}\n(.*)$', '\1', 'e')
else
let filename = filelist
let filelist = ""
endif
" call Decho("filelist<".filelist.">")
" call Decho("filename<".filename.">")
call s:NetrwMarkFile(a:islocal,substitute(filename, '^.*\/', ''))
endwhile

else
" call Decho("handle remote regexp")

" convert displayed listing into a filelist
let eikeep = &ei
let areg = @a
silent %y a
set ei=all ma
" call Decho("set ei=all ma")
1split
enew
silent norm! "ap
2
let bannercnt= search('^" =====', 'W')
exe "silent 1, ".bannercnt."d"
set bt=nofile
if g:netrw_liststyle == s:LONGLIST
silent %s\s\{2,\}S.*$/e
elseif g:netrw_liststyle == s:WIDELIST
silent %s\s\{2,\}/r/ge

```

```

elseif g:netrw_liststyle == s:TREELIST
  silent %s/^|//e
  silent! g/^.*$/d
endif
" convert regexp into
the more usual glob-style format
let regexp= substitute(regexp, \*!, *, g')
" call Decho("regexp<".regexp.">")
exe "silent! v/" .escape(regexp, '/') ."/d"
let filelist= getline(1, line("$"))
q!
for filename in filelist
  call s:NetrwMarkFile(a:islocal, substitute(filename, '^.*/', "", ""))
endfor
unlet filelist
let @a = areg
let &ei = eikkeep
endif

" call Dret("s:NetrwMarkFileRegexp")
endfun

" -----
" s:NetrwMarkFileSource: (invoked by ms) This function sources marked files {{{2
"           Uses the local marked file list.
fun! s:NetrwMarkFileSource(islocal)
" call Dfunc("s:NetrwMarkFileSource(islocal=".a:islocal.")")
let curbufnr= bufnr("%")
if exists("s:netrwmarkfilelist_{curbufnr}")
  let netrwmarkfilelist = s:netrwmarkfilelist_{bufnr("%")}
  let curdir      = b:netrw_curdir
  call s:NetrwUnmarkList(curbufnr, curdir)
  for fname in netrwmarkfilelist
    if a:islocal
      if g:netrw_keepdir
        let fname= s:ComposePath(curdir, fname)
      endif
    else
      let fname= curdir.fname
    endif
    " the autocmds will handle sourcing both local and remote files
    " call Decho("exe so ".fnameescape(fname))
    exe "so ".fnameescape(fname)
  endfor
  2match none
endif
" call Dret("s:NetrwMarkFileSource")
endfun

```



```

" -----
" s:NetrwMarkFileTag: (invoked by mT) This function applies g:netrw_ctags to marked files {{{2
"     Uses the global markfilelist
fun! s:NetrwMarkFileTag(islocal)
" call Dfunc("s:NetrwMarkFileTag(islocal=".a:islocal.")")
let svpos = netrw#NetrwSavePosn()
let curdir = b:netrw_curdir
let curbufnr = bufnr("%")

if exists("s:netrwmarkfilelist")
" call Decho("s:netrwmarkfilelist.string(s:netrwmarkfilelist.">")
let netrwmarkfilelist= join(map(deepcopy(s:netrwmarkfilelist), "shellescape(v:val, '!a:islocal.'"))
call s:NetrwUnmarkAll()

if a:islocal
if executable(g:netrw_ctags)
" call Decho("call system(".g:netrw_ctags." ".netrwmarkfilelist.")")
call system(g:netrw_ctags." ".netrwmarkfilelist)
else
call netrw#ErrorMsg(s:ERROR,"g:netrw_ctags<".g:netrw_ctags."> is not executable!",51)
endif
else
let cmd = s:RemoteSystem(g:netrw_ctags." ".netrwmarkfilelist)
call netrw#NetrwObtain(a:islocal,"tags")
let curdir= b:netrw_curdir
1split
e tags
let path= substitute(curdir,'^\(.*\)/[^\]*$',\1/',")
" call Decho("curdir<".curdir."> path<".path.">")
exe '%s\t(\S+)\t\t'.escape(path, "\n\r").\1\t/e'
wq!
endif
2match none
call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,'./'))
call netrw#NetrwRestorePosn(svpos)
endif

" call Dret("s:NetrwMarkFileTag")
endfun

```

```

" -----
" s:NetrwMarkFileTgt:
" (invoked by mt) This function sets up a marked file target {{{2
" Sets up two variables,
" s:netrwmtgt : holds the target directory
" s:netrwmtgt_islocal : 0=target directory is remote
"     1=target directory is local

```

```

fun! s:NetrwMarkFileTgt(islocal)
" call Dfunc("s:NetrwMarkFileTgt(islocal=".a:islocal.")")
let svpos = netrw#NetrwSavePosn()
let curdir = b:netrw_curdir
let hadtgt = exists("s:netrwmtgt")
if !exists("w:netrw_bannercnt")
  let w:netrw_bannercnt= b:netrw_bannercnt
endif

" set up target
if line(".") < w:netrw_bannercnt
  " if cursor in banner region, use b:netrw_curdir for the target
  let s:netrwmtgt= b:netrw_curdir
" call Decho("inbanner: s:netrwmtgt<".s:netrwmtgt.">")

else
  " get word under cursor.
  " * If directory, use it for the target.
  " * If file, use b:netrw_curdir for the target
  let curword= s:NetrwGetWord()
  let tgtDir = s:ComposePath(curdir,curword)
  if a:islocal
    && isdirectory(tgtDir)
    let s:netrwmtgt = tgtDir
  " call Decho("local isdir: s:netrwmtgt<".s:netrwmtgt.">")
  elseif !a:islocal && tgtDir =~ '/'$
    let s:netrwmtgt = tgtDir
  " call Decho("remote isdir: s:netrwmtgt<".s:netrwmtgt.">")
  else
    let s:netrwmtgt = curdir
  " call Decho("isfile: s:netrwmtgt<".s:netrwmtgt.">")
  endif
endif
if a:islocal
  " simplify the target (eg. /abc/def/./ghi -> /abc/ghi)
  let s:netrwmtgt= simplify(s:netrwmtgt)
  " call Decho("simplify: s:netrwmtgt<".s:netrwmtgt.">")
endif
if g:netrw_cygwin
  let s:netrwmtgt= substitute(system("cygpath ".shellescape(s:netrwmtgt)),'\n$',",")
  let s:netrwmtgt= substitute(s:netrwmtgt,'\n$',",")
endif
let s:netrwmtgt_islocal= a:islocal

if g:netrw_fastbrowse <= 1
  call s:LocalBrowseShellCmdRefresh()
endif
call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,./))

```

```

call netrw#NetrwRestorePosn(svpos)
if !hadtgt
  norm!
j
endif

" call Dret("s:NetrwMarkFileTgt : netrwmfgt<".(exists("s:netrwmfgt")? s:netrwmfgt : "").">")
endfun

" -----
" s:NetrwOpenFile: query user for a filename and open it {{{2
fun! s:NetrwOpenFile(islocal)
" call Dfunc("s:NetrwOpenFile(islocal=".a:islocal.")")
call inputsave()
let fname= input("Enter filename: ")
call inputrestore()
if fname !~ '[\\]'
  if exists("b:netrw_curdir")
    if exists("g:netrw_quiet")
      let netrw_quiet_keep = g:netrw_quiet
    endif
    let g:netrw_quiet = 1
    if b:netrw_curdir =~ '/'$
      exe "e ".fnameescape(b:netrw_curdir.fname)
    else
      exe "e ".fnameescape(b:netrw_curdir."".fname)
    endif
    if exists("netrw_quiet_keep")
      let g:netrw_quiet= netrw_quiet_keep
    else
      unlet g:netrw_quiet
    endif
  endif
else
  exe "e ".fnameescape(fname)
endif
" call Dret("s:NetrwOpenFile")
endfun

" -----
"
" s:NetrwUnmarkList: delete local marked file lists and remove their contents from the global marked-file list {{{2
fun! s:NetrwUnmarkList(curbufnr,curdir)
" call Dfunc("s:NetrwUnmarkList(curbufnr=".a:curbufnr." curdir<".a:curdir.">")")

" remove all files in local marked-file list from global list
if exists("s:netrwmarkfilelist_{a:curbufnr}")
  for mfile in s:netrwmarkfilelist_{a:curbufnr}

```

```

let dfile = s:ComposePath(a:curdir,mfile)    " prepend directory to mfile
let idx  = index(s:netrwmarkfilelist,dfile) " get index in list of dfile
call remove(s:netrwmarkfilelist,idx)       " remove from global list
endfor
if s:netrwmarkfilelist == []
  unlet s:netrwmarkfilelist
endif

" getting rid of the local marked-file lists is easy
unlet s:netrwmarkfilelist_{a:curbufnr}
endif
if exists("s:netrwmarkfilemtch_{a:curbufnr}")
  unlet s:netrwmarkfilemtch_{a:curbufnr}
endif
2match none
" call Dret("s:NetrwUnmarkList")
endfun

" -----
" s:NetrwUnmarkAll: remove the global marked file list and all local ones {{{2
fun! s:NetrwUnmarkAll()
" call Dfunc("s:NetrwUnmarkAll()")
if exists("s:netrwmarkfilelist")
  unlet s:netrwmarkfilelist
endif
silent call s:NetrwUnmarkAll2()
2match none
" call Dret("s:NetrwUnmarkAll")
endfun

" -----
" s:NetrwUnmarkAll2: {{{2
fun! s:NetrwUnmarkAll2()
" call Dfunc("s:NetrwUnmarkAll2()")
redir => netrwmarkfilelist_let
let
redir END
let netrwmarkfilelist_list= split(netrwmarkfilelist_let,"n")    " convert let string into a let list
call filter(netrwmarkfilelist_list,"v:val =~ '^s:netrwmarkfilelist_'" " retain only those vars that start as
s:netrwmarkfilelist_
call map(netrwmarkfilelist_list,"substitute(v:val, '\\s.*$',",)") " remove what the
entries are equal to
for flist in netrwmarkfilelist_list
  let curbufnr= substitute(flist,'s:netrwmarkfilelist_',",")
  unlet s:netrwmarkfilelist_{curbufnr}
  unlet s:netrwmarkfilemtch_{curbufnr}
endfor
" call Dret("s:NetrwUnmarkAll2")

```

```

endfun

" -----
" s:NetrwUnMarkFile: {{{2
fun! s:NetrwUnMarkFile(islocal)
" call Dfunc("s:NetrwUnMarkFile(islocal=".a:islocal.")")
let svpos = netrw#NetrwSavePosn()
let curbufnr = bufnr("%")

" unmark marked file list (although I expect s:NetrwUpload()
" to do it, I'm just making sure)
if exists("s:netrwmarkfilelist_{bufnr('%')}")
" call Decho("unlet'ing: s:netrwmarkfile[list|mtch]_".bufnr("%"))
unlet s:netrwmarkfilelist
unlet s:netrwmarkfilelist_{curbufnr}
unlet s:netrwmarkfilemtch_{curbufnr}
2match none
endif

" call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,'./'))
call netrw#NetrwRestorePosn(svpos)
" call
Dret("s:NetrwUnMarkFile")
endfun

" -----
" s:NetrwMenu: generates the menu for gvim and netrw {{{2
fun! s:NetrwMenu(domenu)

if !exists("g:NetrwMenuPriority")
let g:NetrwMenuPriority= 80
endif

if has("menu") && has("gui_running") && &go =~ 'm' && g:netrw_menu
" call Dfunc("NetrwMenu(domenu=".a:domenu.")")

if !exists("s:netrw_menu_enabled") && a:domenu
" call Decho("initialize menu")
let s:netrw_menu_enabled= 1
exe 'silent! menu '.g:NetrwMenuPriority.'.1 '.g:NetrwTopLvlMenu.'Help<tab><F1> <F1>'
exe 'silent! menu '.g:NetrwMenuPriority.'.5 '.g:NetrwTopLvlMenu.'-Sep1- :'
exe 'silent! menu '.g:NetrwMenuPriority.'.6 '.g:NetrwTopLvlMenu.'Go\ Up\ Directory<tab>- -'
exe 'silent! menu '.g:NetrwMenuPriority.'.7 '.g:NetrwTopLvlMenu.'Apply\ Special\ Viewer<tab>x x'
exe 'silent! menu '.g:NetrwMenuPriority.'.8.1 '.g:NetrwTopLvlMenu.'Bookmarks\ and\ History.Bookmark\
Current\ Directory<tab>mb mb'
exe 'silent! menu '.g:NetrwMenuPriority.'.8.4 '.g:NetrwTopLvlMenu.'Bookmarks\ and\ History.Goto\ Prev\ Dir\
(History)<tab>u u'
exe 'silent! menu '.g:NetrwMenuPriority.'.8.5 '.g:NetrwTopLvlMenu.'Bookmarks\ and\ History.Goto\ Next\ Dir\

```

```

(History)<tab>U U'
  exe 'silent! menu '.g:NetrwMenuPriority.'.8.6 '.g:NetrwTopLvlMenu.'Bookmarks\ and\ History.List<tab>qb qb'
  exe 'silent! menu '.g:NetrwMenuPriority.'.9.1 '.g:NetrwTopLvlMenu.'Browsing\ Control.Edit\ File\ Hiding\
List<tab><ctrl-h>.'" \<c-h>"
  exe 'silent! menu '.g:NetrwMenuPriority.'.9.2 '.g:NetrwTopLvlMenu.'Browsing\ Control.Edit\ Sorting\
Sequence<tab>S S'
  exe 'silent! menu '.g:NetrwMenuPriority.'.9.3 '.g:NetrwTopLvlMenu.'Browsing\ Control.Quick\ Hide/Unhide\
Dot\ Files<tab>.'" gh gh"
  exe 'silent! menu '.g:NetrwMenuPriority.'.9.4 '.g:NetrwTopLvlMenu.'Browsing\ Control.Refresh\
Listing<tab>.'"<ctrl-l> \<c-l>"
  exe 'silent! menu '.g:NetrwMenuPriority.'.9.5
'.g:NetrwTopLvlMenu.'Browsing\ Control.Settings/Options<tab>:NetrwSettings '.':NetrwSettings\<cr>"
  exe 'silent! menu '.g:NetrwMenuPriority.'.10 '.g:NetrwTopLvlMenu.'Delete\ File/Directory<tab>D D'
  exe 'silent! menu '.g:NetrwMenuPriority.'.11.1 '.g:NetrwTopLvlMenu.'Edit\ File/Dir.In\ Current\
Window<tab><cr>.'" \<cr>"
  exe 'silent! menu '.g:NetrwMenuPriority.'.11.2 '.g:NetrwTopLvlMenu.'Edit\ File/Dir.Preview\
File/Directory<tab>p p'
  exe 'silent! menu '.g:NetrwMenuPriority.'.11.3 '.g:NetrwTopLvlMenu.'Edit\ File/Dir.In\ Previous\ Window<tab>P
P'
  exe 'silent! menu '.g:NetrwMenuPriority.'.11.4 '.g:NetrwTopLvlMenu.'Edit\ File/Dir.In\ New\ Window<tab>o o'
  exe 'silent! menu '.g:NetrwMenuPriority.'.11.5 '.g:NetrwTopLvlMenu.'Edit\ File/Dir.In\ New\ Vertical\
Window<tab>v v'
  exe 'silent! menu '.g:NetrwMenuPriority.'.12.1 '.g:NetrwTopLvlMenu.'Explore.Directory\ Name :Explore '
  exe 'silent! menu '.g:NetrwMenuPriority.'.12.2 '.g:NetrwTopLvlMenu.'Explore.Filenames\
Matching\ Pattern\ (curdir\ only)<tab>:Explore\ */ :Explore */'
  exe 'silent! menu '.g:NetrwMenuPriority.'.12.2 '.g:NetrwTopLvlMenu.'Explore.Filenames\ Matching\ Pattern\
(+subdirs)<tab>:Explore\ **/ :Explore **/'
  exe 'silent! menu '.g:NetrwMenuPriority.'.12.3 '.g:NetrwTopLvlMenu.'Explore.Files\ Containing\ Pattern\ (curdir\
only)<tab>:Explore\ **/ :Explore **/'
  exe 'silent! menu '.g:NetrwMenuPriority.'.12.4 '.g:NetrwTopLvlMenu.'Explore.Files\ Containing\ Pattern\
(+subdirs)<tab>:Explore\ **// :Explore **//'
  exe 'silent! menu '.g:NetrwMenuPriority.'.12.4 '.g:NetrwTopLvlMenu.'Explore.Next\ Match<tab>:Nexplore
:Nexplore<cr>'
```

```

exe 'silent! menu '.g:NetrwMenuPriority.'.14.9 '.g:NetrwTopLvlMenu.'Marked\ Files.Move\ To\ Target<tab>mm
mm'
exe 'silent! menu '.g:NetrwMenuPriority.'.14.10 '.g:NetrwTopLvlMenu.'Marked\ Files.Obtain<tab>O O'
exe 'silent! menu '.g:NetrwMenuPriority.'.14.11 '.g:NetrwTopLvlMenu.'Marked\ Files.Print<tab>mp mp'
exe 'silent! menu '.g:NetrwMenuPriority.'.14.12 '.g:NetrwTopLvlMenu.'Marked\ Files.Replace<tab>R R'
exe 'silent! menu '.g:NetrwMenuPriority.'.14.13 '.g:NetrwTopLvlMenu.'Marked\ Files.Set\ Target<tab>mt mt'
exe 'silent! menu '.g:NetrwMenuPriority.'.14.14 '.g:NetrwTopLvlMenu.'Marked\ Files.Tag<tab>mT mT'
exe 'silent! menu '.g:NetrwMenuPriority.'.14.15 '.g:NetrwTopLvlMenu.'Marked\
Files.Zip/Unzip/Compress/Uncompress<tab>mz mz'
exe 'silent! menu '.g:NetrwMenuPriority.'.15 '.g:NetrwTopLvlMenu.'Obtain\ File<tab>O O'
exe 'silent! menu '.g:NetrwMenuPriority.'.16.1 '.g:NetrwTopLvlMenu.'Style.Listing\ Style\ (thin-long-wide-
tree)<tab>i i'
exe 'silent! menu '.g:NetrwMenuPriority.'.16.2 '.g:NetrwTopLvlMenu.'Style.Normal-Hide-Show<tab>a a'
exe 'silent! menu '.g:NetrwMenuPriority.'.16.3 '.g:NetrwTopLvlMenu.'Style.Reverse\ Sorting\
Order<tab>.'r r"
exe 'silent! menu '.g:NetrwMenuPriority.'.16.4 '.g:NetrwTopLvlMenu.'Style.Sorting\ Method\ (name-time-
size)<tab>s s'
exe 'silent! menu '.g:NetrwMenuPriority.'.17 '.g:NetrwTopLvlMenu.'Rename\ File/Directory<tab>R R'
exe 'silent! menu '.g:NetrwMenuPriority.'.18 '.g:NetrwTopLvlMenu.'Set\ Current\ Directory<tab>c c'
call s:NetrwBookmarkMenu() " provide some history! uses priorities 2,3, reserves 4, 8.2.x
let s:netrw_menucnt= 28

elseif !a:domenu
let s:netrwcnt = 0
let curwin = winnr()
windo if getline(2) =~ "Netrw" | let s:netrwcnt= s:netrwcnt + 1 | endif
exe curwin."wincmd w"

if s:netrwcnt <= 1
" call Decho("clear menus")
exe 'silent! unmenu '.g:NetrwTopLvlMenu
" call Decho('exe silent! unmenu '.g:NetrwTopLvlMenu.*')
silent! unlet s:netrw_menu_enabled
endif
endif
" call Dret("NetrwMenu")
endif

endfun

" -----
"
s:NetrwObtain: obtain file under cursor or from markfile list {{{2
" Used by the O maps (as <SID>NetrwObtain())
fun! s:NetrwObtain(islocal)
" call Dfunc("NetrwObtain(islocal=".a:islocal.")")

if exists("s:netrwmarkfilelist_{bufnr('%')}")

```

```

let islocal= s:netrwmarkfilelist_{bufnr('%')}[1] !~ '^a\+://'
call netrw#NetrwObtain(islocal,s:netrwmarkfilelist_{bufnr('%')})
call s:NetrwUnmarkList(bufnr('%'),b:netrw_curdir)
else
call netrw#NetrwObtain(a:islocal,expand("<cWORD>"))
endif

" call Dret("NetrwObtain")
endfun

" -----
" netrw#NetrwObtain: {{{2
" netrw#NetrwObtain(islocal,fname[,tgtdirectory])
" islocal=0 obtain from remote source
" =1 obtain from local source
" fname : a filename or a list of filenames
" tgtdir : optional place where files are to go (not present, uses getcwd())
fun! netrw#NetrwObtain(islocal,fname,...)
"
call Dfunc("netrw#NetrwObtain(islocal=".a:islocal." fname<" .((type(a:fname) == 1)? a:fname :
string(a:fname)).">) a:0=".a:0)
" NetrwStatusLine support - for obtaining support

if type(a:fname) == 1
let fnamelist= [ a:fname ]
elseif type(a:fname) == 3
let fnamelist= a:fname
else
call netrw#ErrorMsg(s:ERROR,"attempting to use NetrwObtain on something not a filename or a list",62)
" call Dret("netrw#NetrwObtain")
return
endif
" call Decho("fnamelist<".string(fnamelist).">")
if a:0 > 0
let tgtdir= a:1
else
let tgtdir= getcwd()
endif
" call Decho("tgtdir<".tgtdir.">")

if exists("b:netrw_islocal") && b:netrw_islocal
" obtain a file from local b:netrw_curdir to (local) tgtdir
" call Decho("obtain a file from local ".b:netrw_curdir." to ".tgtdir)
if exists("b:netrw_curdir") && getcwd() != b:netrw_curdir
let topath= s:ComposePath(tgtdir,"")
if (has("win32") || has("win95") || has("win64") || has("win16"))

```



```

" transfer files one at time
" call Decho("transfer files one at a time")
for fname in fnamelist
" call Decho("system(".g:netrw_localcopycmd." ".shellescape(fname)." ".shellescape(topath).)")
call system(g:netrw_localcopycmd." ".shellescape(fname)." ".shellescape(topath))
endfor
else
" transfer files with one command
" call Decho("transfer files with one command")
let filelist= join(map(deepcopy(fnamelist),"shellescape(v:val)"))
" call Decho("system(".g:netrw_localcopycmd." ".filelist." ".shellescape(topath).)")
call system(g:netrw_localcopycmd." ".filelist." ".shellescape(topath))
endif
elseif !exists("b:netrw_curdir")
call netrw#ErrorMsg(s:ERROR,"local browsing directory doesn't exist!",36)
else
call netrw#ErrorMsg(s:WARNING,"local browsing directory and current directory are identical",37)
endif

else
" obtain files from remote b:netrw_curdir to local tgtmdir
" call Decho("obtain
a file from remote ".b:netrw_curdir." to ".tgtmdir)
if type(a:fname) == 1
call s:SetupNetrwStatusLine('%f %h% m%r%=%9*Obtaining 'a:fname)
endif
call s:NetrwMethod(b:netrw_curdir)

if b:netrw_method == 4
" obtain file using scp
" call Decho("obtain via scp (method#4)")
if exists("g:netrw_port") && g:netrw_port != ""
let useport= " ".g:netrw_scpport." ".g:netrw_port
else
let useport= ""
endif
if b:netrw_fname =~ '/'
let path= substitute(b:netrw_fname,'^\(.*/\)\{-}$','\1',)
else
let path= ""
endif
let filelist= join(map(deepcopy(fnamelist),'shellescape(g:netrw_machine." ".path.v:val,1)'))
" call Decho("exe ".s:netrw_silentxfer."!".g:netrw_scp_cmd.shellescape(useport,1)." ".filelist."
".shellescape(tgtmdir,1))
exe s:netrw_silentxfer."!".g:netrw_scp_cmd.shellescape(useport,1)." ".filelist." ".shellescape(tgtmdir,1)

elseif b:netrw_method == 2
" obtain file using ftp + .netrc

```

```

" call
Decho("obtain via ftp+.netrc (method #2)")
  call s:SaveBufVars()|silent keepjumps new|call s:RestoreBufVars()
  let tmpbufnr= bufnr("%")
  setlocal ff=unix
  if exists("g:netrw_ftpmode") && g:netrw_ftpmode != ""
    put =g:netrw_ftpmode
"   call Decho("filter input: ".getline('$'))
  endif

  if exists("b:netrw_fname") && b:netrw_fname != ""
    call setline(line("$")+1,'cd "'.b:netrw_fname.'"')
"   call Decho("filter input: ".getline('$'))
  endif

  if exists("g:netrw_ftpextracmd")
    put =g:netrw_ftpextracmd
"   call Decho("filter input: ".getline('$'))
  endif

  for fname in fnamelist
    call setline(line("$")+1,'get "'.fname.'"')
"   call Decho("filter input: ".getline('$'))
  endfor

  if exists("g:netrw_port") && g:netrw_port != ""
"   call Decho("executing: %!".g:netrw ftp_cmd." -i ".shellescape(g:netrw_machine,1)."
".shellescape(g:netrw_port,1))
    exe s:netrw_silentxfer."%!".g:netrw ftp_cmd."
-i ".shellescape(g:netrw_machine,1)." ".shellescape(g:netrw_port,1)
    else
"   call Decho("executing: %!".g:netrw ftp_cmd." -i ".shellescape(g:netrw_machine,1))
    exe s:netrw_silentxfer."%!".g:netrw ftp_cmd." -i ".shellescape(g:netrw_machine,1)
  endif

  " If the result of the ftp operation isn't blank, show an error message (tnx to Doug Claar)
  if getline(1) !~ "^$" && !exists("g:netrw_quiet") && getline(1) !~ '^Trying '
    let debugkeep= &debug
    setlocal debug=msg
    call netrw#ErrorMsg(s:ERROR,getline(1),4)
    let &debug= debugkeep
  endif

elseif b:netrw_method == 3
  " obtain with ftp + machine, id, passwd, and fname (ie. no .netrc)
"   call Decho("obtain via ftp+mipf (method #3)")
  call s:SaveBufVars()|silent keepjumps new|call s:RestoreBufVars()
  let tmpbufnr= bufnr("%")
  setlocal ff=unix

  if exists("g:netrw_port") && g:netrw_port != ""

```

```

    put ='open 'g:netrw_machine.' 'g:netrw_port
"   call
Decho("filter input: ".getline('$'))
    else
    put ='open 'g:netrw_machine
"   call Decho("filter input: ".getline('$'))
    endif

if exists("g:netrw_ftp") && g:netrw_ftp == 1
    put =g:netrw_uid
"   call Decho("filter input: ".getline('$'))
    put =\".s:netrw_passwd.\"
"   call Decho("filter input: ".getline('$'))
    else
    put ='user \"g:netrw_uid.\" \"s:netrw_passwd.\"
"   call Decho("filter input: ".getline('$'))
    endif

if exists("g:netrw_ftpmode") && g:netrw_ftpmode != ""
    put =g:netrw_ftpmode
"   call Decho("filter input: ".getline('$'))
    endif

if exists("b:netrw_fname") && b:netrw_fname != ""
    call setline(line("$")+1,'cd "'b:netrw_fname.'"')
"   call Decho("filter input: ".getline('$'))
    endif

if exists("g:netrw_ftpextracmd")
    put =g:netrw_ftpextracmd
"   call Decho("filter input: ".getline('$'))
    endif

if exists("g:netrw_ftpextracmd")
    put =g:netrw_ftpextracmd
"
    call Decho("filter input: ".getline('$'))
    endif
for fname in fnamelist
    call setline(line("$")+1,'get "'fname.'"')
endfor
"   call Decho("filter input: ".getline('$'))

" perform ftp:
" -i    : turns off interactive prompting from ftp
" -n unix : DON'T use <.netrc>, even though it exists
" -n win32: quit being obnoxious about password
norm! 1Gdd

```

```

" call Decho("executing: %!" .g:netrw_ftp_cmd." -i -n")
exe s:netrw_silentxfer."%!" .g:netrw_ftp_cmd." -i -n"
" If the result of the ftp operation isn't blank, show an error message (tnx to Doug Claar)
if getline(1) !~ "^$"
" call Decho("error<".getline(1).">")
if !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:ERROR,getline(1),5)
endif
endif
elseif !exists("b:netrw_method") || b:netrw_method < 0
" call Dfunc("netrw#NetrwObtain : unsupported method")
return
endif

" restore status line
if type(a:fname) ==
1 && exists("s:netrw_users_stl")
call s:SetupNetrwStatusLine(s:netrw_users_stl)
endif

endif

" cleanup
if exists("tmpbufnr")
if bufnr("%") != tmpbufnr
exe tmpbufnr."bw!"
else
q!
endif
endif

" call Dret("netrw#NetrwObtain")
endfun

" -----
" s:NetrwPrevWinOpen: open file/directory in previous window. {{{2
" If there's only one window, then the window will first be split.
" Returns:
" choice = 0 : didn't have to choose
" choice = 1 : saved modified file in window first
" choice = 2 : didn't save modified file, opened window
" choice = 3 : cancel open
fun! s:NetrwPrevWinOpen(islocal)
" call Dfunc("NetrwPrevWinOpen(islocal=".a:islocal.")")

" grab a copy of the b:netrw_curdir to pass it along to newly split windows
let curdir = b:netrw_curdir

```

```

" get last window number and the word currently under the cursor
let lastwinnr = winnr("$")
let curword = s:NetrwGetWord()
let choice = 0
" call Decho("lastwinnr=".lastwinnr." curword<".curword.">")

let didsplit = 0
if lastwinnr == 1
" if only one window, open a new one first
" call Decho("only one window, so open a new one (g:netrw_alto=".g:netrw_alto.")")
if g:netrw_preview
" call Decho("exe ".(g:netrw_alto? "top " : "bot ")."vert ".g:netrw_winsize."wincmd s")
exe (g:netrw_alto? "top " : "bot ")."vert ".g:netrw_winsize."wincmd s"
else
" call Decho("exe ".(g:netrw_alto? "bel " : "abo ").g:netrw_winsize."wincmd s")
exe (g:netrw_alto? "bel " : "abo ").g:netrw_winsize."wincmd s"
endif
let didsplit = 1

else
call s:SaveBufVars()
" call Decho("wincmd p")
wincmd p
call s:RestoreBufVars()
" if the previous window's buffer has been changed (is modified),
" and it doesn't appear in any other extant window, then ask the
" user if s/he wants to abandon modifications therein.
let bnr
= winbufnr(0)
let bnrCnt = 0
if &mod
" call Decho("detected: prev window's buffer has been modified: bnr=".bnr." winnr#".winnr())
let ekeep= &ei
set ei=all
windo if winbufnr(0) == bnr | let bnrCnt=bnrCnt+1 | endif
exe bnr."wincmd p"
let &ei= ekeep
" call Decho("bnr=".bnr." bnrCnt=".bnrCnt." buftype=".&bt." winnr#".winnr())
if bnrCnt == 1
let bufname= bufname(winbufnr(winnr()))
let choice= confirm("Save modified file<".bufname.">?", "&Yes\n&No\n&Cancel")
" call Decho("bufname<".bufname."> choice="."choice." winnr#".winnr())

if choice == 1
" Yes -- write file & then browse
let v:errmsg= ""
silent w
if v:errmsg != ""

```

```

call netrw#ErrorMsg(s:ERROR,"unable to write <".bufname.">",30)
if didsplit
  q
else
  wincmd p
endif
" call Dret("NetrwPrevWinOpen ".choice." : unable to write <".bufname.">")
return choice
endif

elseif choice == 2
  " No -- don't worry about changed file, just browse anyway
  setlocal nomod
  call netrw#ErrorMsg(s:WARNING,bufname." changes to ".bufname." abandoned",31)
  wincmd p

else
  " Cancel -- don't do this
  if didsplit
    q
  else
    wincmd p
  endif
" call Dret("NetrwPrevWinOpen ".choice." : cancelled")
return choice
endif
endif
endif

" restore b:netrw_curdir (window split/eww may have lost it)
let b:netrw_curdir= curdir
if a:islocal < 2
  if a:islocal
    call netrw#LocalBrowseCheck(s:NetrwBrowseChgDir(a:islocal,curword))
  else
    call s:NetrwBrowse(a:islocal,s:NetrwBrowseChgDir(a:islocal,curword))
  endif
endif
" call Dret("NetrwPrevWinOpen ".choice)
return choice
endfun

" -----
" s:NetrwUpload: load fname to tgt (used by NetrwMarkFileCopy()) {{{2
" Always assumed

```

```

to be local -> remote
"      call s:NetrwUpload(filename, target)
"      call s:NetrwUpload(filename, target, fromdirectory)
fun! s:NetrwUpload(fname,tgt,...)
"  call Dfunc("s:NetrwUpload(fname<" .((type(a:fname) == 1)? a:fname : string(a:fname))."> tgt<".a:tgt.">)
a:0=".a:0)

if a:tgt =~ '^a\+://'
  let tgt_dir= substitute(a:tgt, '^a\+://[^/]\+^\(\.\{-\}\)$', \1, '')
else
  let tgt_dir= substitute(a:tgt, '^\(\.\{-\}\)/[^/]*$', \1, '')
endif
"  call Decho("tgt_dir<".tgt_dir.">")

if a:0 > 0
  let fromdir= a:1
else
  let fromdir= getcwd()
endif
"  call Decho("fromdir<".fromdir.">")

if type(a:fname) == 1
  " handle uploading a single file using NetWrite
  "  call Decho("handle uploading a single file via NetWrite")
  lsplit
  "  call Decho("exe e ".fnameescape(a:fname))
  exe "e ".fnameescape(a:fname)
  "  call Decho("now locally editing<".expand("%").">, has ".line("$")." lines")
  if a:tgt =~ '/'$
    let wfname= substitute(a:fname, '^.*/', '')
    "
    call Decho("exe w! ".fnameescape(wfname))
    exe "w! ".fnameescape(a:tgt.wfname)
  else
  "  call Decho("writing local->remote: exe w ".fnameescape(a:tgt))
  exe "w ".fnameescape(a:tgt)
  "  call Decho("done writing local->remote")
  endif
  q!

elseif type(a:fname) == 3
  " handle uploading a list of files via scp
  "  call Decho("handle uploading a list of files via scp")
  let curdir= getcwd()
  if a:tgt =~ '^scp:'
    exe "keepjumps silent lcd ".fnameescape(fromdir)
    let filelist= deepcopy(s:netrwmarkfilelist_{bufnr("%)})
    let args = join(map(filelist, "shellescape(v:val, 1)"))

```

```

if exists("g:netrw_port") && g:netrw_port != ""
  let useport= " ".g:netrw_scpport." ".g:netrw_port
else
  let useport= ""
endif
let machine = substitute(a:tgt, '^scp://([^\:]\+).*$', '\1,')
let tgt    = substitute(a:tgt, '^scp://([^\:]\+)(.*)$', '\1,')
"  call Decho("exe ".s:netrw_silentxfer."!".g:netrw_scp_cmd.shellescape(useport,1)."
".args." ".shellescape(machine.":".tgt,1))
exe s:netrw_silentxfer."!".g:netrw_scp_cmd.shellescape(useport,1)." ".args." ".shellescape(machine.":".tgt,1)
exe "keepjumps silent lcd ".fnameescape(curdir)

elseif a:tgt =~ '^ftp:'
  call s:NetrwMethod(a:tgt)

  if b:netrw_method == 2
    " handle uploading a list of files via ftp+.netrc
    let netrw_fname = b:netrw_fname
    silent keepjumps new
    "  call Decho("filter input window#".winnr())

    put =g:netrw_ftpmode
    "  call Decho("filter input: ".getline('$'))

    if exists("g:netrw_ftpextracmd")
      put =g:netrw_ftpextracmd
    "  call Decho("filter input: ".getline('$'))
    endif

    call setline(line("$")+1, 'lcd "'.fromdir.'"')
    "  call Decho("filter input: ".getline('$'))

    call setline(line("$")+1, 'cd "'.tgtdir.'"')
    "  call Decho("filter input: ".getline('$'))

    for fname in a:fname
      call setline(line("$")+1, 'put "'.fname.'"')
    "
      call Decho("filter input: ".getline('$'))
    endfor

    if exists("g:netrw_port") && g:netrw_port != ""
    "  call Decho("executing: ".s:netrw_silentxfer."%!".g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine,1)."
".shellescape(g:netrw_port,1))
      exe s:netrw_silentxfer."%!".g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine,1)."
".shellescape(g:netrw_port,1)
    else
    "  call Decho("filter input window#".winnr())

```



```

"    call Decho("executing: ".s:netrw_silentxfer."%!".g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine,1))
exe s:netrw_silentxfer."%!".g:netrw_ftp_cmd." -i ".shellescape(g:netrw_machine,1)
endif
" If the result of the ftp operation isn't blank, show an error message (tnx to Doug Claar)
silent g/Local directory now/d
if getline(1) !~ "^$" && !exists("g:netrw_quiet") && getline(1) !~ '^Trying '
call netrw#ErrorMsg(s:ERROR,getline(1),14)
else
bw!|q
endif

elseif b:netrw_method == 3

" upload with ftp + machine, id, passwd, and fname (ie. no .netrc)
let netrw_fname= b:netrw_fname
call s:SaveBufVars()|silent keepjumps new|call s:RestoreBufVars()
let tmpbufnr= bufnr("%")
setlocal ff=unix

if exists("g:netrw_port") && g:netrw_port != ""
put ='open '.g:netrw_machine.' '.g:netrw_port
"    call Decho("filter input: ".getline('$'))
else
put ='open '.g:netrw_machine
"    call Decho("filter input: ".getline('$'))
endif

if exists("g:netrw_ftp") && g:netrw_ftp == 1
put =g:netrw_uid
"    call Decho("filter input: ".getline('$'))
call setline(line("$")+1,"".s:netrw_passwd."")
"    call Decho("filter input: ".getline('$'))
else
put ='user \".g:netrw_uid.\" \"\".s:netrw_passwd.\"\"
"    call Decho("filter input: ".getline('$'))
endif

call setline(line("$")+1,'lcd "'.fromdir.'"')
"    call Decho("filter input: ".getline('$'))

if exists("b:netrw_fname")
&& b:netrw_fname != ""
call setline(line("$")+1,'cd "'.b:netrw_fname.'"')
"    call Decho("filter input: ".getline('$'))
endif

if exists("g:netrw_ftpextracmd")
put =g:netrw_ftpextracmd

```

```

" call Decho("filter input: ".getline('$'))
endif

for fname in a:fname
call setline(line("$")+1,'put "' .fname.'"')
" call Decho("filter input: ".getline('$'))
endifor

" perform ftp:
" -i : turns off interactive prompting from ftp
" -n unix : DON'T use <.netrc>, even though it exists
" -n win32: quit being obnoxious about password
norm! 1Gdd
" call Decho("executing: ".s:netrw_silentxfer."!" .g:netrw_ftp_cmd." -i -n")
exe s:netrw_silentxfer."!" .g:netrw_ftp_cmd." -i -n"
" If the result of the ftp operation isn't blank, show an error message (tnx to Doug Claar)
silent g/Local directory now/d
if getline(1) !~ "^$" && !exists("g:netrw_quiet") && getline(1) !~ '^Trying
,

let debugkeep= &debug
setlocal debug=msg
call netrw#ErrorMsg(s:ERROR,getline(1),15)
let &debug = debugkeep
let mod = 1
else
bw!|q
endif
elseif !exists("b:netrw_method") || b:netrw_method < 0
" call Dfunc("netrw#NetrwUpload : unsupported method")
return
endif
else
call netrw#ErrorMsg(s:ERROR,"can't obtain files with protocol from<".a:tgt.">",63)
endif
endif

" call Dret("s:NetrwUpload")
endfun

" -----
" s:NetrwPreview: {{{2
fun! s:NetrwPreview(path) range
" call Dfunc("NetrwPreview(path<".a:path.">")")
call s:NetrwOptionSave("s:")
call s:NetrwSafeOptions()
if has("quickfix")
if !isdirectory(a:path)
exe (g:netrw_preview? "vert " : "")."pedit ".fnameescape(a:path)

```

```

elseif !exists("g:netrw_quiet")
  call netrw#ErrorMsg(s:WARNING,"sorry, cannot preview a directory such as <".a:path.">",38)
endif
elseif !exists("g:netrw_quiet")
  call netrw#ErrorMsg(s:WARNING,"sorry, to preview your vim needs the quickfix feature compiled in",39)
endif
call s:NetrwOptionRestore("s:")
" call Dret("NetrwPreview")
endfun

" -----
" s:NetrwRefresh: {{{2
fun! s:NetrwRefresh(islocal,dirname)
" call Dfunc("NetrwRefresh(islocal<".a:islocal.">,dirname="a:dirname.") hide="g:netrw_hide."
sortdir="g:netrw_sort_direction)
" at the current time (Mar 19, 2007) all calls to NetrwRefresh() call NetrwBrowseChgDir() first.
" NetrwBrowseChgDir() may clear the display; hence a NetrwSavePosn() may not work if its placed here.
" Also, NetrwBrowseChgDir() now does a NetrwSavePosn() itself.
setlocal ma noro
" call Decho("setlocal ma noro")
" call Decho("clear buffer<".expand("%")."> with :%d")
%d
if a:islocal
  call netrw#LocalBrowseCheck(a:dirname)
else
  call s:NetrwBrowse(a:islocal,a:dirname)
endif
call netrw#NetrwRestorePosn()

" restore file marks
if exists("s:netrwmarkfilemtch_{bufnr('%')}") && s:netrwmarkfilemtch_{bufnr("%")} != ""
" call Decho("exe 2match netrwMarkFile /".s:netrwmarkfilemtch_{bufnr("%")}."/")
exe "2match netrwMarkFile /".s:netrwmarkfilemtch_{bufnr("%")}."/")
else
" call Decho("2match none")
2match none
endif

" redraw!
" call Dret("NetrwRefresh")
endfun

" -----
" s:NetrwRefreshDir: refreshes a directory by name {{{2
"          Called by NetrwMarkFileCopy()
"          Interfaces to s:NetrwRefresh() and s:LocalBrowseShellCmdRefresh()
fun! s:NetrwRefreshDir(islocal,dirname)
" call Dfunc("s:NetrwRefreshDir(islocal="a:islocal." dirname="a:dirname.">) fastbrowse="g:netrw_fastbrowse)

```

```

if g:netrw_fastbrowse == 0
" slowest mode (keep buffers refreshed, local or remote)
" call Decho("slowest mode: keep buffers refreshed, local or
remote")
let tgtwin= bufwinnr(a:dirname)
" call Decho("tgtwin= bufwinnr(".a:dirname.")=".tgtwin)

if tgtwin > 0
" tgtwin is being displayed, so refresh it
let curwin= winnr()
" call Decho("refresh tgtwin#" .tgtwin." (curwin#" .curwin.")")
exe tgtwin."wincmd w"
call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,'./'))
exe curwin."wincmd w"

elseif bufnr(a:dirname) > 0
let bn= bufnr(a:dirname)
" call Decho("bd bufnr(".a:dirname.")=".bn)
exe "silent bd ".bn
endif

elseif g:netrw_fastbrowse <= 1
" call Decho("medium-speed mode: refresh local buffers only")
call s:LocalBrowseShellCmdRefresh()
endif
" call Dret("s:NetrwRefreshDir")
endfun

" -----
" s:NetrwSetSort: sets up the sort based on the g:netrw_sort_sequence {{{2
" What this function does is to compute a priority for the patterns
" in the g:netrw_sort_sequence.
" It applies a substitute to any
" "files" that satisfy each pattern, putting the priority / in
" front. An "*" pattern handles the default priority.
fun! s:NetrwSetSort()
" call Dfunc("SetSort() bannercnt=".w:netrw_bannercnt)
if w:netrw_liststyle == s:LONGLIST
let seqlist = substitute(g:netrw_sort_sequence, '\$', '\\%(t\\|\\$\\)', 'ge')
else
let seqlist = g:netrw_sort_sequence
endif
" sanity check -- insure that * appears somewhere
if seqlist == ""
let seqlist= '*'
elseif seqlist !~ '*'
let seqlist= seqlist.*'
endif

```

```

let priority = 1
while seqlist != ""
if seqlist =~ ','
let seq = substitute(seqlist,','*$',','e)
let seqlist = substitute(seqlist,^\{-},\{.*\}$,'1',e)
else
let seq = seqlist
let seqlist = ""
endif
let sepchr= "\<Char-0xff>"
if priority < 10
let spriority= "00".priority.sepchr
elseif priority < 100
let spriority= "0".priority.sepchr
else
let spriority= priority.sepchr
endif
" call Decho("priority=".priority." spriority<".spriority."> seq<".seq."> seqlist<".seqlist.">")

" sanity check
if w:netrw_bannercnt > line("$")
" apparently no files were left after a Hiding pattern was used
" call Dret("SetSort : no files left after hiding")
return
endif
if seq == '*'
let starpriority= priority
else
exe 'silent keepjumps '.w:netrw_bannercnt.',$g/'.seq.'/s/^/'.spriority.'/'
" sometimes multiple sorting patterns will match the same file or directory.
" The following substitute is intended to remove the excess matches.
exe 'silent keepjumps '.w:netrw_bannercnt.',$g/^\d\{3\}'.sepchr.'\d\{3\}/s/^\d\{3\}'.sepchr.'\(\d\{3\}\|\^)\.@=/1/e'
endif
let priority = priority + 1
endwhile
if exists("starpriority")
exe 'silent keepjumps '.w:netrw_bannercnt.',$v/^\d\{3\}'.sepchr.'/s/^/'.starpriority.'/'
endif

" Following line associated with priority
-- items that satisfy a priority
" pattern get prefixed by ###/ which permits easy sorting by priority.
" Sometimes files can satisfy multiple priority patterns -- only the latest
" priority pattern needs to be retained. So, at this point, these excess
" priority prefixes need to be removed, but not directories that happen to
" be just digits themselves.
exe 'silent keepjumps '.w:netrw_bannercnt.',$s/^\(\d\{3\}'.sepchr.'\)\%(\d\{3\}'.sepchr.'\)|+ze./1/e'

```

```

" call Dret("SetSort")
endfun

" =====
" s:NetrwSortStyle: change sorting style (name - time - size) and refresh display {{{2
fun! s:NetrwSortStyle(islocal)
" call Dfunc("s:NetrwSortStyle(islocal=".a:islocal.") netrw_sort_by<".g:netrw_sort_by.">")
call s:NetrwSaveWordPosn()
let svpos= netrw#NetrwSavePosn()

let g:netrw_sort_by= (g:netrw_sort_by =~ 'n')? 'time' : (g:netrw_sort_by =~ 't')? 'size' : 'name'
norm! 0
call s:NetrwRefresh(a:islocal,s:NetrwBrowseChgDir(a:islocal,./))
call netrw#NetrwRestorePosn(svpos)

" call Dret("s:NetrwSortStyle : netrw_sort_by<".g:netrw_sort_by.">")
endfun

" -----
" s:NetrwSplit: mode {{{2
"   =0 : net  and o
"   =1 : net  and t
"   =2 : net  and v
"   =3 : local and o
"   =4 : local and t
"   =5 : local and v
fun! s:NetrwSplit(mode)
" call Dfunc("s:NetrwSplit(mode=".a:mode.") alto="g:netrw_alto." altv="g:netrw_altv)

call s:SaveWinVars()

if a:mode == 0
" remote and o
" call Decho("exe ".(g:netrw_alto? "bel " : "abo ").g:netrw_winsize."wincmd s")
exe (g:netrw_alto? "bel " : "abo ").g:netrw_winsize."wincmd s"
let s:didsplit= 1
call s:RestoreWinVars()
call s:NetrwBrowse(0,s:NetrwBrowseChgDir(0,s:NetrwGetWord()))
unlet s:didsplit

elseif a:mode == 1
" remote and t
let newdir = s:NetrwBrowseChgDir(0,s:NetrwGetWord())
"
" call Decho("tabnew")
tabnew
let s:didsplit= 1
call s:RestoreWinVars()

```

```

call s:NetrwBrowse(0,newdir)
unlet s:didsplit

elseif a:mode == 2
" remote and v
" call Decho("exe ".(g:netrw_altv? "rightb " : "lefta ").g:netrw_winsize."wincmd v")
exe (g:netrw_altv? "rightb " : "lefta ").g:netrw_winsize."wincmd v"
let s:didsplit= 1
call s:RestoreWinVars()
call s:NetrwBrowse(0,s:NetrwBrowseChgDir(0,s:NetrwGetWord()))
unlet s:didsplit

elseif a:mode == 3
" local and o
" call Decho("exe ".(g:netrw_alto? "bel " : "abo ").g:netrw_winsize."wincmd s")
exe (g:netrw_alto? "bel " : "abo ").g:netrw_winsize."wincmd s"
let s:didsplit= 1
call s:RestoreWinVars()
call netrw#LocalBrowseCheck(s:NetrwBrowseChgDir(1,s:NetrwGetWord()))
unlet s:didsplit

elseif a:mode == 4
" local and t
let netrw_curdir= b:netrw_curdir
let cursorword = s:NetrwGetWord()
" call Decho("tabnew")
tabnew

let b:netrw_curdir= netrw_curdir
let s:didsplit= 1
call s:RestoreWinVars()
call netrw#LocalBrowseCheck(s:NetrwBrowseChgDir(1,cursorword))
unlet s:didsplit

elseif a:mode == 5
" local and v
" call Decho("exe ".(g:netrw_altv? "rightb " : "lefta ").g:netrw_winsize."wincmd v")
exe (g:netrw_altv? "rightb " : "lefta ").g:netrw_winsize."wincmd v"
let s:didsplit= 1
call s:RestoreWinVars()
call netrw#LocalBrowseCheck(s:NetrwBrowseChgDir(1,s:NetrwGetWord()))
unlet s:didsplit

else
call netrw#ErrorMsg(s:ERROR, "(NetrwSplit) unsupported mode=" .a:mode,45)
endif

" call Dret("s:NetrwSplit")

```

```

endfun

" -----
" NetrwStatusLine: {{{2
fun! NetrwStatusLine()

" vvv NetrwStatusLine() debugging vvv
" let g:stlmsg=""
" if !exists("w:netrw_explore_bufnr")
" let g:stlmsg="!X<explore_bufnr>"
" elseif w:netrw_explore_bufnr != bufnr("%")
" let g:stlmsg="explore_bufnr!=.bufnr("%")
"
endif
" if !exists("w:netrw_explore_line")
" let g:stlmsg=" !X<explore_line>"
" elseif w:netrw_explore_line != line(".")
" let g:stlmsg=" explore_line!={line(.)<.line(".").">"
" endif
" if !exists("w:netrw_explore_list")
" let g:stlmsg=" !X<explore_list>"
" endif
" ^^^ NetrwStatusLine() debugging ^^^

if !exists("w:netrw_explore_bufnr") || w:netrw_explore_bufnr != bufnr("%") || !exists("w:netrw_explore_line") ||
w:netrw_explore_line != line(".") || !exists("w:netrw_explore_list")
" restore user's status line
let &stl = s:netrw_users_stl
let &laststatus = s:netrw_users_ls
if exists("w:netrw_explore_bufnr")|unlet w:netrw_explore_bufnr|endif
if exists("w:netrw_explore_line")|unlet w:netrw_explore_line|endif
return ""
else
return "Match ".w:netrw_explore_mtchcnt." of ".w:netrw_explore_listlen
endif
endfun

" -----
" s:NetrwTreeDir: determine tree
directory given current cursor position {{{2
" (full path directory with trailing slash returned)
fun! s:NetrwTreeDir()
" call Dfunc("NetrwTreeDir() curline#.line(".")."<.getline('.')."> b:netrw_curdir<".b:netrw_curdir.">
tab#.tabpagenr(). win#.winnr(). buf#.bufnr("%")."<.bufname("%").">")

let treedir= b:netrw_curdir
" call Decho("set initial treedir<".treedir.">")
let s:treecurpos= netrw#NetrwSavePosn()

```



```

if w:netrw_liststyle == s:TREELIST
" call Decho("w:netrw_liststyle is TREELIST:")
" call Decho("line#.line(".").- getline(.)<"getline('.')> treecurpos<".string(s:treecurpos).">")
if getline('.') =~ '/'$'
let treedir= substitute(getline('.'),'^\%(| \)*\([^\].\{-}\)$',\1,'e')
else
let treedir= ""
endif

" call Decho("treedir<".treedir.">")

" detect user attempting to close treeroot
if getline('.') !~ '|' && getline('.') != '..'
" call Decho("user attempted to close treeroot")
" now force a refresh
"
call Decho("clear buffer<".expand("%")."> with :%d")
keepjumps %d
" call Dret("NetrwTreeDir <".treedir."> : (side effect) s:treecurpos<".string(s:treecurpos).">")
return b:netrw_curdir
endif

" elide all non-depth information
let depth = substitute(getline('.'),'^\%(| \)*\([^\].\{-}\)$',\1,'e')
" call Decho("depth<".depth."> 1st subst")

" elide first depth
let depth = substitute(depth,'^| ','')
" call Decho("depth<".depth."> 2nd subst")

" construct treedir by searching backwards at correct depth
" call Decho("constructing treedir<".treedir."> depth<".depth.">")
while depth != "" && search('^'.depth.'[^\].\{-}$',bW)
let dirname= substitute(getline('.'),'^\%(| \)*','','e')
let treedir= dirname.treedir
let depth = substitute(depth,'^| ','')
" call Decho("constructing treedir<".treedir.">: dirname<".dirname."> while depth<".depth.">")
endwhile
if w:netrw_treetop =~ '/'$'
let treedir= w:netrw_treetop.treedir
else
let treedir= w:netrw_treetop.'/'.treedir
endif
" call Decho("bufnr(.)=".bufnr("%")." line($)=.line("$")." line(.)=.line(".")")
endif
let treedir= substitute(treedir,'/$','/',")

```

```

" " now force a refresh
"" call DECHO("clear buffer<".expand("%")."> with :%d")
" setlocal ma noro
" keepjumps %d

" call Dret("NetrwTreeDir <".treedir."> : (side effect) s:treecurpos<".string(s:treecurpos).">")
return treedir
endfun

" -----
" s:NetrwTreeDisplay: recursive tree display {{{2
fun! s:NetrwTreeDisplay(dir,depth)
" call Dfunc("NetrwTreeDisplay(dir<".a:dir."> depth<".a:depth.">")

" insure that there are no folds
setlocal nofen

" install ../ and shortdir
if a:depth == ""
call setline(line("$")+1,'../')
" call Decho("setline#".line("$")." ../ (depth is zero)")
endif
if a:dir =~ '^a\+://'
if a:dir == w:netrw_treetop
let shortdir= a:dir
else
let shortdir= substitute(a:dir,'^.*\([^\|]+\)/$','\1','e')
endif
call setline(line("$")+1,a:depth.shortdir)
else
let shortdir= substitute(a:dir,'^.*','e')
call setline(line("$")+1,a:depth.shortdir.'/')
endif
" call Decho("setline#".line("$")." shortdir<".a:depth.shortdir.">")

" append a / to dir if its missing one
let dir= a:dir
if dir !~ '/'$
let dir= dir.'/'
endif

" display subtrees (if any)
let depth= "| ".a:depth

" call Decho("display subtrees with depth<".depth."> and current leaves")
for entry in w:netrw_treedict[a:dir]
let direntry= substitute(dir.entry,'/$','e')
" call Decho("dir<".dir."> entry<".entry."> direntry<".direntry.">")

```

```

if entry =~ '/' && has_key(w:netrw_treedict,direntry)
" call Decho("<.direntry."> is a key in treedict - display subtree for it")
call s:NetrwTreeDisplay(direntry,depth)
elseif entry =~ '/' && has_key(w:netrw_treedict,direntry.'/')
" call
Decho("<.direntry."> is a key in treedict - display subtree for it")
call s:NetrwTreeDisplay(direntry.'/',depth)
else
" call Decho("<.entry."> is not a key in treedict (no subtree)")
call setline(line("$")+1,depth.entry)
endif
endfor
" call Dret("NetrwTreeDisplay")
endfun

" -----
" s:NetrwTreeListing: displays tree listing from treetop on down, using NetrwTreeDisplay() {{{2
fun! s:NetrwTreeListing(dirname)
if w:netrw_liststyle == s:TREELIST
" call Dfunc("NetrwTreeListing() bufname<".expand("%").">")
" call Decho("curdir<.a:dirname.">")
" call Decho("win#.winnr().": w:netrw_treetop ".(exists("w:netrw_treetop")? "exists" : "doesn't exit")."
w:netrw_treedict ".(exists("w:netrw_treedict")? "exists" : "doesn't exit"))

" update the treetop
" call Decho("update the treetop")
if !exists("w:netrw_treetop")
let w:netrw_treetop= a:dirname
" call Decho("w:netrw_treetop<.w:netrw_treetop.">
(reusing))
elseif (w:netrw_treetop =~ ('^'.a:dirname) && s:Strlen(a:dirname) < s:Strlen(w:netrw_treetop)) || a:dirname !~
('^'.w:netrw_treetop)
let w:netrw_treetop= a:dirname
" call Decho("w:netrw_treetop<.w:netrw_treetop."> (went up))
endif

" insure that we have at least an empty treedict
if !exists("w:netrw_treedict")
let w:netrw_treedict= {}
endif

" update the directory listing for the current directory
" call Decho("updating dictionary with ".a:dirname.":[.directory listing..]")
" call Decho("bannercnt=".w:netrw_bannercnt." line($)=.line("$"))
exe "silent! keepjumps ".w:netrw_bannercnt.',$g@^\.\.|=/$@d'
let w:netrw_treedict[a:dirname]= getline(w:netrw_bannercnt,line("$"))
" call Decho("w:treedict[".a:dirname."]= ".w:netrw_treedict[a:dirname])
exe "silent! keepjumps ".w:netrw_bannercnt.',$d"

```

```

" if past banner, record word
if exists("w:netrw_bannercnt") && line(".") > w:netrw_bannercnt
    let fname= expand("<cword>")
else
    let fname= ""
endif
" call Decho("fname<".fname.">")

" display from treetop on down
call s:NetrwTreeDisplay(w:netrw_treetop,"")

" call Dret("NetrwTreeListing : bufname<".expand("%").">")
endif
endfun

" -----
" s:NetrwWideListing: {{{2
fun! s:NetrwWideListing()

if w:netrw_liststyle == s:WIDELIST
" call Dfunc("NetrwWideListing() w:netrw_liststyle="w:netrw_liststyle.' fo='.&fo.' l:fo='.&l:fo)
" look for longest filename (cpf=characters per filename)
" cpf: characters per file
" fpl: files per line
" fpc: files per column
setlocal ma noro
" call Decho("setlocal ma noro")
let b:netrw_cpf= 0
if line("$") >= w:netrw_bannercnt
    exe 'silent keepjumps '.w:netrw_bannercnt.',$g/^./if virtcol("$") > b:netrw_cpf|let b:netrw_cpf= virtcol("$)|endif'
else
" call Dret("NetrwWideListing")
return
endif
"
    call Decho("max file strlen+1="b:netrw_cpf)
let b:netrw_cpf= b:netrw_cpf + 1

" determine qty files per line (fpl)
let w:netrw_fpl= winwidth(0)/b:netrw_cpf
if w:netrw_fpl <= 0
    let w:netrw_fpl= 1
endif
" call Decho("fpl= ".winwidth(0)."/[b:netrw_cpf="b:netrw_cpf.']=w:netrw_fpl)

" make wide display
exe 'silent keepjumps '.w:netrw_bannercnt.',$s/^.*$/^=escape(sprintf("%-'.b:netrw_cpf.'s",submatch(0)),"\\")/'

```

```

let fpc      = (line("$") - w:netrw_bannercnt + w:netrw_fpl)/w:netrw_fpl
let newcolstart = w:netrw_bannercnt + fpc
let newcolend  = newcolstart + fpc - 1
" call Decho("bannercnt=".w:netrw_bannercnt." fpl=".w:netrw_fpl." fpc=".fpc."
newcol["newcolstart.", ".newcolend."])
silent! let keepregstar = @*
while line("$") >= newcolstart
  if newcolend > line("$") | let newcolend= line("$") | endif
  let newcolqty= newcolend - newcolstart
  exe newcolstart
  if newcolqty == 0
    exe "silent keepjumps
norm! 0<c-v>$hx".w:netrw_bannercnt."G$p"
  else
    exe "silent keepjumps norm! 0<c-v>".newcolqty.'j$hx'.w:netrw_bannercnt.'G$p'
  endif
  exe "silent keepjumps ".newcolstart.''.newcolend.'d'
  exe 'silent keepjumps '.w:netrw_bannercnt
endwhile
silent! let @*= keepregstar
exe "silent keepjumps ".w:netrw_bannercnt.',$s\s\+$/e'
setlocal noma nomod ro
" call Dret("NetrwWideListing")
endif

endfun

" -----
" s:PerformListing: {{{2
fun! s:PerformListing(islocal)
" call Dfunc("s:PerformListing(islocal=".a:islocal.") buf(%)=".bufnr("%")."<".bufname("%").">")

call s:NetrwSafeOptions()
setlocal noro ma
" call Decho("setlocal noro ma")

" if exists("g:netrw_silent") && g:netrw_silent == 0 && &ch >= 1 " Decho
" call Decho("(netrw) Processing your browsing request...")
" endif      " Decho

" call Decho('w:netrw_liststyle='.(exists("w:netrw_liststyle")? w:netrw_liststyle
: 'n/a'))
if exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST && exists("w:netrw_treedict")
" force a refresh for tree listings
" call Decho("force refresh for treelisting: clear buffer<".expand("%")."> with :%d")
keepjumps %d
endif

```

```

" save current directory on directory history list
call s:NetrwBookHistHandler(3,b:netrw_curdir

" Set up the banner {{{3
" call Decho("set up banner")
keepjumps put =\
=====
keepjumps put =\ Netrw Directory Listing (netrw 'g:loaded_netrw.')
```

---

```

keepjumps put =\ 'b:netrw_curdir
keepjumps 1d
let w:netrw_bannercnt= 3
exe "keepjumps ".w:netrw_bannercnt

let sortby= g:netrw_sort_by
if g:netrw_sort_direction =~ "^r"
  let sortby= sortby." reversed"
endif

" Sorted by... {{{3
" call Decho("handle specified sorting: g:netrw_sort_by<".g:netrw_sort_by.">")
if
g:netrw_sort_by =~ "^n"
" call Decho("directories will be sorted by name")
" sorted by name
keepjumps put =\ Sorted by '.sortby'
keepjumps put =\ Sort sequence: 'g:netrw_sort_sequence'
let w:netrw_bannercnt= w:netrw_bannercnt + 2
else
" call Decho("directories will be sorted by size or time")
" sorted by size or date
keepjumps put =\ Sorted by '.sortby'
let w:netrw_bannercnt= w:netrw_bannercnt + 1
endif
exe "keepjumps ".w:netrw_bannercnt

" show copy/move target, if any
if exists("s:netrw_mftgt") && exists("s:netrw_mftgt_islocal")
" call Decho("show copy/move target<".s:netrw_mftgt.">")
keepjumps put =
if s:netrw_mftgt_islocal
  call setline(line("."), " Copy/Move Tgt: 's:netrw_mftgt.' (local)")
else
  call setline(line("."), " Copy/Move Tgt: 's:netrw_mftgt.' (remote)")
endif
let w:netrw_bannercnt= w:netrw_bannercnt + 1
else
" call Decho("s:netrw_mftgt does not exist, don't make Copy/Move
```

```

Tgt")
endif
exe "keepjumps ".w:netrw_bannercnt

" Hiding... -or- Showing... {{{3
" call Decho("handle hiding/showing (g:netrw_hide=".g:netrw_list_hide."
g:netrw_list_hide<".g:netrw_list_hide.">")")
if g:netrw_list_hide != "" && g:netrw_hide
if g:netrw_hide == 1
keepjumps put =\ " Hiding:      '.g:netrw_list_hide
else
keepjumps put =\ " Showing:     '.g:netrw_list_hide
endif
let w:netrw_bannercnt= w:netrw_bannercnt + 1
endif
exe "keepjumps ".w:netrw_bannercnt
keepjumps put =\ " Quick Help: <F1>:help -:go up dir D:delete R:rename s:sort-by x:exec'
keepjumps put =\ "
=====
let w:netrw_bannercnt= w:netrw_bannercnt + 2

" bannercnt should index the line just after the banner
let w:netrw_bannercnt= w:netrw_bannercnt + 1
exe "keepjumps ".w:netrw_bannercnt
" call Decho("bannercnt=".w:netrw_bannercnt." (should index line just after banner)
line($)="line("$)")

" set up syntax highlighting {{{3
" call Decho("set up syntax highlighting")
if has("syntax")
setlocal ft=netrw
if !exists("g:syntax_on") || !g:syntax_on
setlocal ft=
endif
endif

" get list of files
" call Decho("Get list of files - islocal=".a:islocal)
if a:islocal
call s:LocalListing()
else " remote
call s:NetrwRemoteListing()
endif
" call Decho("w:netrw_bannercnt=".w:netrw_bannercnt." (banner complete)")

" manipulate the directory listing (hide, sort) {{{3
if line("$") >= w:netrw_bannercnt
" call Decho("manipulate directory listing (hide)")

```

```

" call Decho("g:netrw_hide="g:netrw_hide." g:netrw_list_hide<"g:netrw_list_hide.">")
if g:netrw_hide && g:netrw_list_hide != ""
    call s:NetrwListHide()
endif
if line("$") >= w:netrw_bannercnt
" call Decho("manipulate directory listing (sort) : g:netrw_sort_by<"g:netrw_sort_by.">")

if g:netrw_sort_by =~ "^n"
" sort by name
    call s:NetrwSetSort()

if w:netrw_bannercnt < line("$")
" call Decho("g:netrw_sort_direction="g:netrw_sort_direction." (bannercnt="w:netrw_bannercnt."))
if g:netrw_sort_direction =~ 'n'
" normal direction sorting
    exe 'silent keepjumps '.w:netrw_bannercnt.',$sort!.'.g:netrw_sort_options
else
" reverse direction sorting
    exe 'silent keepjumps '.w:netrw_bannercnt.',$sort!.'.g:netrw_sort_options
endif
endif
" remove priority pattern prefix
" call Decho("remove priority pattern prefix")
let sepchr= "\<Char-0xff>"
exe 'silent keepjumps '.w:netrw_bannercnt.',$s/^\d\{3\}.sepchr.//'

elseif a:islocal
if w:netrw_bannercnt < line("$")
" call Decho("g:netrw_sort_direction="g:netrw_sort_direction)
if g:netrw_sort_direction =~ 'n'
" call Decho('exe silent keepjumps '.w:netrw_bannercnt.',$sort')
exe 'silent keepjumps '.w:netrw_bannercnt.',$sort!.'.g:netrw_sort_options
else
" call Decho('exe silent keepjumps '.w:netrw_bannercnt.',$sort!')
exe 'silent keepjumps '.w:netrw_bannercnt.',$sort!.'.g:netrw_sort_options
endif
endif
exe 'silent keepjumps '.w:netrw_bannercnt.',$s/^\d\{-\}///e'
endif

elseif g:netrw_sort_direction =~ 'r'
" call Decho('reverse the sorted listing')
exe 'silent keepjumps '.w:netrw_bannercnt.'g/^m '.w:netrw_bannercnt
endif
endif

" convert to wide/tree listing {{{3
" call Decho("modify display if wide/tree listing style")

```



```

call s:NetrwWideListing()
call s:NetrwTreeListing(b:netrw_curdir)

if exists("w:netrw_bannercnt") && line("$") > w:netrw_bannercnt
" place cursor on the top-left corner of the file listing
" call Decho("place cursor on top-left corner of file listing")
exe 'silent keepjumps '.w:netrw_bannercnt
norm! 0
endif

" record previous current directory
let w:netrw_prvdir= b:netrw_curdir
" call
Decho("record netrw_prvdir<".w:netrw_prvdir.">")

" save certain window-oriented variables into buffer-oriented variables {{{3
call s:SetBufWinVars()
call s:NetrwOptionRestore("w:")

" set display to netrw display settings
" call Decho("set display to netrw display settings (noma nomod etc)")
setlocal noma nomod nonu nobl nowrap ro
if exists("s:treecurpos")

call netrw#NetrwRestorePosn(s:treecurpos)
unlet s:treecurpos
endif

" call Dret("s:PerformListing : curpos<".string(getpos(".")).">")
endfun

" -----
" s:SetupNetrwStatusLine: {{{2
fun! s:SetupNetrwStatusLine(statline)
" call Dfunc("SetupNetrwStatusLine(statline<".a:statline.">")

if !exists("s:netrw_setup_statline")
let s:netrw_setup_statline= 1
" call Decho("do first-time status line setup")

if !exists("s:netrw_users_stl")
let s:netrw_users_stl= &stl
endif
if !exists("s:netrw_users_ls")
let s:netrw_users_ls= &laststatus
endif

" set up User9 highlighting as needed

```

```

let keepa= @a
redir @a
try
  hi User9
catch /^Vim\%((\a\+)\)=:E411/
  if &bg == "dark"
    hi User9 ctermfg=yellow ctermbg=blue guifg=yellow guibg=blue
  else
    hi User9 ctermfg=yellow ctermfg=blue guifg=yellow guibg=blue
  endif
endtry
redir END
let @a= keepa
endif

" set up status line (may use User9 highlighting)
" insure that windows have a statusline
" make sure statusline is displayed
let &stl=a:statline
setlocal laststatus=2
" call Decho("stl=".&stl)
redraw

" call Dret("SetupNetrwStatusLine : stl=".&stl)
endfun

" -----
" Remote Directory Browsing Support:  {{{1
" =====

" -----
" s:NetrwRemoteListing:  {{{2
fun! s:NetrwRemoteListing()
" call
Dfunc("s:NetrwRemoteListing() b:netrw_curdir<" .b:netrw_curdir.">")

call s:RemotePathAnalysis(b:netrw_curdir)

" sanity check:
if exists("b:netrw_method") && b:netrw_method =~ '[235]'
" call Decho("b:netrw_method=" .b:netrw_method)
if !executable("ftp")
if !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:ERROR,"this system doesn't support remote directory listing via ftp",18)
endif
call s:NetrwOptionRestore("w:")
" call Dret("s:NetrwRemoteListing")
return

```

```

endif

elseif !exists("g:netrw_list_cmd") || g:netrw_list_cmd == "
if !exists("g:netrw_quiet")
if g:netrw_list_cmd == ""
call netrw#ErrorMsg(s:ERROR,g:netrw_ssh_cmd." is not executable on your system",47)
else
call netrw#ErrorMsg(s:ERROR,"this system doesn't support remote directory listing via ".g:netrw_list_cmd,19)
endif
endif

call s:NetrwOptionRestore("w:")
" call Dret("s:NetrwRemoteListing")
return
endif " (remote handling
sanity check)

if exists("b:netrw_method")
" call Decho("setting w:netrw_method<".b:netrw_method.">")
let w:netrw_method= b:netrw_method
endif

if s:method == "ftp"
" use ftp to get remote file listing
" call Decho("use ftp to get remote file listing")
let s:method = "ftp"
let listcmd = g:netrw_ftp_list_cmd
if g:netrw_sort_by =~ '^t'
let listcmd= g:netrw_ftp_timelist_cmd
elseif g:netrw_sort_by =~ '^s'
let listcmd= g:netrw_ftp_sizelist_cmd
endif
" call Decho("listcmd<".listcmd."> (using g:netrw_ftp_list_cmd)")
call s:NetrwRemoteFtpCmd(s:path,listcmd)
" exe "keepjumps ".w:netrw_bannercnt.',$g/^./call Decho("raw listing: ".getline("."))'

if w:netrw_liststyle == s:THINLIST || w:netrw_liststyle == s:WIDELIST || w:netrw_liststyle == s:TREELIST
" shorten the listing
" call Decho("generate short listing")
exe "keepjumps ".w:netrw_bannercnt

" cleanup
if g:netrw_ftp_browse_reject != ""
exe "silent!"
g/"g:netrw_ftp_browse_reject."/keepjumps d"
endif
silent! keepjumps %s\r$/e

```

```

" if there's no ../ listed, then put ./ and ../ in
let line1= line(".")
exe "keepjumps ".w:netrw_bannercnt
let line2= search('^\.\.\\%(\s|$)', 'cnW')
if line2 == 0
" call Decho("netrw is putting ./ and ../ into listing")
keepjumps put='./'
keepjumps put='../'
endif
exe "keepjumps ".line1
keepjumps norm! 0

" call Decho("line1=".line1." line2=".line2." line(.)=".line("."))
if search('^d\{2}-d\{2}-d\{2}\s', 'n') " M$ ftp site cleanup
" call Decho("M$ ftp cleanup")
exe 'silent! keepjumps '.w:netrw_bannercnt.', $s/^d\{2}-d\{2}-
\d\{2}\s+\d\+:\d\+[AaPp][Mm]\s+\%(<DIR>\\d\+)\s+//'
else " normal ftp cleanup
" call Decho("normal ftp cleanup")
exe 'silent! keepjumps '.w:netrw_bannercnt.', $s/^(\%(\S\+|\s\+)\{7}\S\+)\s+(\%(\S.*))\$/2/e'
exe "silent! keepjumps ".w:netrw_bannercnt.', $g/ -> /s#
-> .*/$##/e'
exe "silent! keepjumps ".w:netrw_bannercnt.', $g/ -> /s# -> .*/$##/e'
endif
endif

else
" use ssh to get remote file listing {{{3
" call Decho("use ssh to get remote file listing: s:path<".s:path.">")
let listcmd= s:MakeSshCmd(g:netrw_list_cmd)
" call Decho("listcmd<".listcmd."> (using g:netrw_list_cmd)")
if g:netrw_scp_cmd =~ '^pscp'
" call Decho("1: exe silent r! ".shellescape(listcmd.s:path, 1))
exe "silent r! ".listcmd.shellescape(s:path, 1)
" remove rubbish and adjust listing format of 'pscp' to 'ssh ls -FLa' like
g/^Listing directory/d
g/^d[-rwx][-rwx][-rwx]/s+$/+e
silent g/^l[-rwx][-rwx][-rwx]/s+$/+@+e
if g:netrw_liststyle != s:LONGLIST
g/^[\d\sp-][-rwx][-rwx][-rwx]/s/^\.*\s(\S\+)\$/1/e
endif
endif
else
if s:path == ""
" call Decho("2: exe silent r! ".listcmd)
exe "silent r! ".listcmd
else
" call Decho("3: exe silent r! ".listcmd.' '.shellescape(s:path,1))
exe

```

```

"silent r! ".listcmd.'!shellescape(s:path,1)
"  call Decho("listcmd<".listcmd."> path<".s:path.">")
  endif
endif

" cleanup
if g:netrw_ftp_browse_reject != ""
"  call Decho("(cleanup) exe silent! g/".g:netrw_ssh_browse_reject."/keepjumps d")
  exe "silent! g/".g:netrw_ssh_browse_reject."/keepjumps d"
  endif
endif

if w:netrw_liststyle == s:LONGLIST
" do a long listing; these substitutions need to be done prior to sorting {{{3
"  call Decho("fix long listing:")

if s:method == "ftp"
" cleanup
exe "keepjumps ".w:netrw_bannercnt
while getline('.') =~ g:netrw_ftp_browse_reject
  keepjumps d
endwhile
" if there's no ./ listed, then put ./ and ./ in
let line1= line(".")
keepjumps 1
silent keepjumps call search('^\.\.\\%(\\s\\$)\','W')
let line2= line(".")
if line2 == 0
  exe 'keepjumps '.w:netrw_bannercnt."put='./'"
  if b:netrw_curdir != '/'
    exe 'keepjumps '.w:netrw_bannercnt."put='./'"
  endif
endif
exe "keepjumps ".line1
keepjumps norm! 0
endif

if search('^\\d\\{2}-\\d\\{2}-\\d\\{2}\\s','n') " M$ ftp site cleanup
"  call Decho("M$ ftp site listing cleanup")
  exe 'silent! keepjumps '.w:netrw_bannercnt.',$s/^(\\d\\{2}-\\d\\{2}-
\\d\\{2}\\s+\\d+:\\d+[AaPp][Mm]\\s+\\%(<DIR>\\|\\d+\\)|\\s+\\)(\\w.*\\)$\\2\\t1/'
  elseif exists("w:netrw_bannercnt") && w:netrw_bannercnt <= line("$")
"  call Decho("normal ftp site listing cleanup: bannercnt=".w:netrw_bannercnt." line($)=.line("$")")
  exe 'silent keepjumps '.w:netrw_bannercnt.',$s/ -> .*$/e'
  exe 'silent keepjumps '.w:netrw_bannercnt.',$s/^(\\%(\\S\\|\\s+\\)\\{7}\\S\\|\\)\\s+\\(\\S.*\\)$\\2\\t1/e'
  exe 'silent keepjumps '.w:netrw_bannercnt
  endif
endif

```

```

" if exists("w:netrw_bannercnt") && w:netrw_bannercnt <= line("$") " Decho
" exe "keepjumps ".w:netrw_bannercnt.',$g/^./call Decho("listing: ".getline("."))'
" endif " Decho
" call Dret("s:NetrwRemoteListing")
endfun

"
-----
" s:NetrwRemoteRm: remove/delete a remote file or directory {{{2
fun! s:NetrwRemoteRm(usrhost,path) range
" call Dfunc("s:NetrwRemoteRm(usrhost<".a:usrhost."> path<".a:path.">) virtcol=".virtcol("."))
" call Decho("firstline=".a:firstline." lastline=".a:lastline)
let svpos= netrw#NetrwSavePosn()

let all= 0
if exists("s:netrwmarkfilelist_{bufnr('%')}")
" remove all marked files
" call Decho("remove all marked files with bufnr#".bufnr("%"))
for fname in s:netrwmarkfilelist_{bufnr("%")}
let ok= s:NetrwRemoteRmFile(a:path,fname,all)
if ok =~ 'q%'[uit]
break
elseif ok =~ 'a%'[ll]
let all= 1
endif
endfor
call s:NetrwUnmarkList(bufnr("%"),b:netrw_curdir)

else
" remove files specified by range
" call Decho("remove files specified by range")

" preparation for removing multiple files/directories
let ctr= a:firstline

" remove
multiple files and directories
while ctr <= a:lastline
exe ctr
let ok= s:NetrwRemoteRmFile(a:path,s:NetrwGetWord(),all)
if ok =~ 'q%'[uit]
break
elseif ok =~ 'a%'[ll]
let all= 1
endif
let ctr= ctr + 1
endwhile

```

```

endif

" refresh the (remote) directory listing
" call Decho("refresh remote directory listing")
call s:NetrwRefresh(0,s:NetrwBrowseChgDir(0,'/'))
call netrw#NetrwRestorePosn(svpos)

" call Dret("s:NetrwRemoteRm")
endfun

" -----
" s:NetrwRemoteRmFile: {{{2
fun! s:NetrwRemoteRmFile(path,rmfile,all)
" call Dfunc("s:NetrwRemoteRmFile(path<"a:path."> rmfile<"a:rmfile.">) all="a:all)

let all= a:all
let ok = ""

if a:rmfile !~ '^"' && (a:rmfile =~ '@$' || a:rmfile !~ '[\V]$')
" attempt to remove file
" call Decho("attempt to remove file (all=".all.")")
if !all
echohl Statement
" call Decho("case all=0:")

call inputsave()
let ok= input("Confirm deletion of file<"a:rmfile."> ", "[{y(es)},n(o),a(ll),q(uit)] ")
call inputrestore()
echohl NONE
if ok == ""
let ok="no"
endif
let ok= substitute(ok, "[{y(es)},n(o),a(ll),q(uit)]s*", "'e'")
if ok =~ 'a%[ll]'
let all= 1
endif
endif

if all || ok =~ 'y%[es]' || ok == ""
" call Decho("case all=".all." or ok<".ok.">".(exists("w:netrw_method")? ': netrw_method='w:netrw_method :
""))
if exists("w:netrw_method") && (w:netrw_method == 2 || w:netrw_method == 3)
" call Decho("case ftp:")
let path= a:path
if path =~ '^a\+://'
let path= substitute(path, '^a\+://[^/]\+', ",")
endif
silent! keepjumps .,$d

```

```

call s:NetrwRemoteFtpCmd(path,"delete ".a:rmfile."")
else
" call Decho("case ssh: g:netrw_rm_cmd<"g:netrw_rm_cmd.">")
let netrw_rm_cmd= s:MakeSshCmd(g:netrw_rm_cmd)
" call Decho("netrw_rm_cmd<".netrw_rm_cmd.">")
if !exists("b:netrw_curdir")
call netrw#ErrorMsg(s:ERROR,"for some reason b:netrw_curdir doesn't exist!",53)
let ok="q"
else
let remotedir= substitute(b:netrw_curdir,"^.*//[^\|]+\^(.*)$",\1,")
" call Decho("netrw_rm_cmd<".netrw_rm_cmd.">")
" call Decho("remotedir<".remotedir.">")
" call Decho("rmfile<".a:rmfile.">")
if remotedir != ""
let netrw_rm_cmd= netrw_rm_cmd." ".shellescape(fnamescape(remotedir.a:rmfile))
else
let netrw_rm_cmd= netrw_rm_cmd." ".shellescape(fnamescape(a:rmfile))
endif
" call Decho("call system(".netrw_rm_cmd.")")
let ret= system(netrw_rm_cmd)
if ret != 0
call netrw#ErrorMsg(s:WARNING,"cmd<".netrw_rm_cmd."> failed",60)
endif
" call Decho("returned=".ret." errcode=".v:shell_error)
endif
endif
elseif ok =~ 'q\%[uit]'
" call Decho("ok=="ok)
break
endif

else
" attempt to remove directory
" call Decho("attempt
to remove directory")
if !all
call inputsave()
let ok= input("Confirm deletion of directory<"a:rmfile."> ", "[{y(es)},n(o),a(ll),q(uit)] ")
call inputrestore()
if ok == ""
let ok="no"
endif
let ok= substitute(ok, "[{y(es)},n(o),a(ll),q(uit)]s*", "'e'")
if ok =~ 'a\%[ll]'
let all= 1
endif
endif
endif

```



```

if all || ok =~ 'y\[es]' || ok == ""
if exists("w:netrw_method") && (w:netrw_method == 2 || w:netrw_method == 3)
call s:NetrwRemoteFtpCmd(a:path,"rmdir ".a:rmfile)
else
let rmfile      = substitute(a:path.a:rmfile,'%$',",")
let netrw_rmdir_cmd = s:MakeSshCmd(s:WinPath(g:netrw_rmdir_cmd)).' '.shellescape(s:WinPath(rmfile))
" call Decho("attempt to remove dir: system(".netrw_rmdir_cmd."))
let ret= system(netrw_rmdir_cmd)
" call Decho("returned=".ret." errcode=".v:shell_error)

if v:shell_error != 0
" call Decho("v:shell_error not 0")
let netrw_rmf_cmd=
s:MakeSshCmd(s:WinPath(g:netrw_rmf_cmd)).' '.shellescape(s:WinPath(substitute(rmfile,['\|$',",','e'])))
" call Decho("2nd attempt to remove dir: system(".netrw_rmf_cmd."))
let ret= system(netrw_rmf_cmd)
" call Decho("returned=".ret." errcode=".v:shell_error)

if v:shell_error != 0 && !exists("g:netrw_quiet")
call netrw#ErrorMsg(s:ERROR,"unable to remove directory<".rmfile."> -- is it empty?",22)
endif
endif
endif

elseif ok =~ 'q\[uit]'
break
endif
endif

" call Dret("s:NetrwRemoteRmFile ".ok)
return ok
endfun

" -----
" s:NetrwRemoteFtpCmd: unfortunately, not all ftp servers honor options for ls {{{2
" This function assumes that a long listing will be received. Size, time,
" and reverse sorts will be requested of the server but not otherwise
" enforced here.
fun! s:NetrwRemoteFtpCmd(path,listcmd)
" call Dfunc("NetrwRemoteFtpCmd(path<".a:path.">
listcmd<".a:listcmd.">) netrw_method=".w:netrw_method)
" call Decho("line($)=" .line("$")." bannercnt=".w:netrw_bannercnt)

" because WinXX ftp uses unix style input
let ffkeep= &ff
setlocal ma ff=unix noro
" call Decho("setlocal ma ff=unix noro")

```

```

" clear off any older non-banner lines
" note that w:netrw_bannercnt indexes the line after the banner
" call Decho('exe silent! keepjumps '.w:netrw_bannercnt.', $d (clear off old non-banner lines)')
exe "silent! keepjumps ".w:netrw_bannercnt.", $d"

".....
if w:netrw_method == 2 || w:netrw_method == 5
" ftp + <.netrc>: Method #2
if a:path != ""
put = 'cd \'' . a:path . '\''
endif
if exists("g:netrw_ftpextracmd")
put = g:netrw_ftpextracmd
" call Decho("filter input: ".getline('.'))
endif
call setline(line("$")+1, a:listcmd)
" exe "keepjumps ".w:netrw_bannercnt.', $g/^./call Decho("ftp#".line(".").": ".getline("."))'
if
exists("g:netrw_port") && g:netrw_port != ""
" call Decho("exe ".s:netrw_silentxfer.w:netrw_bannercnt.', $!' . g:netrw_ftp_cmd." -i
".shellescape(g:netrw_machine, 1)." ".shellescape(g:netrw_port, 1))
exe s:netrw_silentxfer." keepjumps ".w:netrw_bannercnt.', $!' . g:netrw_ftp_cmd." -i
".shellescape(g:netrw_machine, 1)." ".shellescape(g:netrw_port, 1)
else
" call Decho("exe ".s:netrw_silentxfer.w:netrw_bannercnt.', $!' . g:netrw_ftp_cmd." -i
".shellescape(g:netrw_machine, 1))
exe s:netrw_silentxfer." keepjumps ".w:netrw_bannercnt.', $!' . g:netrw_ftp_cmd." -i
".shellescape(g:netrw_machine, 1)
endif

".....
elseif w:netrw_method == 3
" ftp + machine, id, passwd, filename: Method #3
setlocal ff=unix
if exists("g:netrw_port") && g:netrw_port != ""
put = 'open '.g:netrw_machine.' '.g:netrw_port
else
put = 'open '.g:netrw_machine
endif

if exists("g:netrw_ftp") && g:netrw_ftp == 1
put = g:netrw_uid
put = '\' . s:netrw_passwd . '\''
else
put = 'user \'' . g:netrw_uid . '\' \'' . s:netrw_passwd . '\''
endif

if a:path != ""

```

```

    put ='cd \'".a:path.\'"
endif
if exists("g:netrw_ftpextracmd")
    put =g:netrw_ftpextracmd
"   call Decho("filter input: ".getline('.'))
endif
call setline(line("$")+1,a:listcmd)

" perform ftp:
" -i      : turns off interactive prompting from ftp
" -n unix : DON'T use <.netrc>, even though it exists
" -n win32: quit being obnoxious about password
"   exe w:netrw_bannercnt!,$g/^./call Decho("ftp#".line("."): ".getline(".)")'
"   call Decho("exe ".s:netrw_silentxfer.w:netrw_bannercnt.",$!".g:netrw_ftp_cmd." -i -n")
exe s:netrw_silentxfer.w:netrw_bannercnt.",$!".g:netrw_ftp_cmd." -i -n"

".....
else
call netrw#ErrorMsg(s:WARNING,"unable to comply with your request<" . choice . ">",23)
endif

" cleanup for Windows
if has("win32") ||
has("win95") || has("win64") || has("win16")
silent! keepjumps %s\r$/e
endif
if a:listcmd == "dir"
" infer directory/link based on the file permission string
silent! keepjumps g/d%\%([-r][-w][-x])\{3}/s@$/@
silent! keepjumps g/l%\%([-r][-w][-x])\{3}/s$/@/
if w:netrw_liststyle == s:THINLIST || w:netrw_liststyle == s:WIDELIST || w:netrw_liststyle == s:TREELIST
exe "silent! keepjumps ".w:netrw_bannercnt.",$s/^%\%(S\+|s\+)\)\{8}/e"
endif
endif

" ftp's listing doesn't seem to include ./ or ../
if !search('^\.\/$\\|s\.\.\/$', 'wn')
exe 'keepjumps '.w:netrw_bannercnt
put = './'
endif
if !search('^\.\/$\\|s\.\.\/$', 'wn')
exe 'keepjumps '.w:netrw_bannercnt
put = '../'
endif

" restore settings
let &ff= ffkeep
" call Dret("NetrwRemoteFtpCmd")

```

```

endfun

" -----
" s:NetrwRemoteRename: rename a remote file or directory {{{2
fun! s:NetrwRemoteRename(usrhost,path)
range
" call Dfunc("NetrwRemoteRename(usrhost<".a:usrhost."> path<".a:path.">")")

" preparation for removing multiple files/directories
let svpos = netrw#NetrwSavePosn()
let ctr = a:firstline
let rename_cmd = s:MakeSshCmd(g:netrw_rename_cmd)

" rename files given by the markfilelist
if exists("s:netrwmarkfilelist_{bufnr('%')}")
for oldname in s:netrwmarkfilelist_{bufnr("%")}
" call Decho("oldname<".oldname.">")
if exists("subfrom")
let newname= substitute(oldname,subfrom,subto,"")
" call Decho("subfrom<".subfrom."> subto<".subto."> newname<".newname.">")
else
call inputsave()
let newname= input("Moving ".oldname." to : ",oldname)
call inputrestore()
if newname =~ '^s/'
let subfrom = substitute(newname,'^s^\([^/]*\)/.*$/','\1',"")
let subto = substitute(newname,'^s/[^/]*^\(.*\)/$','\1',"")
let newname = substitute(oldname,subfrom,subto,"")
" call Decho("subfrom<".subfrom.">
subto<".subto."> newname<".newname.">")
endif
endif

if exists("w:netrw_method") && (w:netrw_method == 2 || w:netrw_method == 3)
call s:NetrwRemoteFtpCmd(a:path,"rename ".oldname." ".newname)
else
let oldname= shellescape(a:path.oldname)
let newname= shellescape(a:path.newname)
" call Decho("system(s:WinPath("rename_cmd.") ".oldname.'"'.newname.'"")")
let ret = system(s:WinPath(rename_cmd)'.oldname.'"'.newname)
endif

endif

endfor
call s:NetrwUnMarkFile(1)

else

" attempt to rename files/directories

```

```

while ctr <= a:lastline
  exe "keepjumps ".ctr

  let oldname= s:NetrwGetWord()
" call Decho("oldname<".oldname.">")

  call inputsave()
  let newname= input("Moving ".oldname." to : ",oldname)
  call inputrestore()

  if exists("w:netrw_method") && (w:netrw_method == 2 || w:netrw_method == 3)
    call s:NetrwRemoteFtpCmd(a:path,"rename ".oldname." ".newname)
  else

  let oldname= shellescape(a:path.oldname)
  let newname= shellescape(a:path.newname)
" call Decho("system(s:WinPath(".rename_cmd.") ".oldname.' '.newname."))
  let ret = system(s:WinPath(rename_cmd).' '.oldname.' '.newname)
  endif

  let ctr= ctr + 1
endwhile
endif

" refresh the directory
call s:NetrwRefresh(0,s:NetrwBrowseChgDir(0,'/'))
call netrw#NetrwRestorePosn(svpos)

" call Dret("NetrwRemoteRename")
endfun

" -----
" Local Directory Browsing Support: {{{1
" =====

" -----
" netrw#LocalBrowseCheck: {{{2
fun! netrw#LocalBrowseCheck(dirname)
" unfortunate interaction -- split window debugging can't be
" used here, must use D-echoRemOn or D-echoTabOn -- the BufEnter
" event triggers another call to LocalBrowseCheck() when attempts
" to write to the DBG
buffer are made.
" The &ft == "netrw" test was installed because the BufEnter event
" would hit when re-entering netrw windows, creating unexpected
" refreshes (and would do so in the middle of NetrwSaveOptions(), too)
" call Decho("netrw#LocalBrowseCheck: isdir<".a:dirname.">=".isdirectory(a:dirname))
if isdirectory(a:dirname)

```

```

" call Decho(" ft<".&ft."> b:netrw_curdir<".(exists("b:netrw_curdir")? b:netrw_curdir : " doesn't exist").">
dirname<".a:dirname.">". line($)="line("$)")
if &ft != "netrw" || (exists("b:netrw_curdir") && b:netrw_curdir != a:dirname)
  silent! call s:NetrwBrowse(1,a:dirname)
elseif &ft == "netrw" && line("$") == 1
  silent! call s:NetrwBrowse(1,a:dirname)
endif
endif
" not a directory, ignore it
endfun

" -----
" s:LocalListing: does the job of "ls" for local directories {{{2
fun! s:LocalListing()
" call Dfunc("s:LocalListing()")
" call Decho("&ma=".&ma)
"
  call Decho("&mod=".&mod)
" call Decho("&ro=".&ro)
" call Decho("bufname(%)<".bufname("%").">")

" if exists("b:netrw_curdir") |call Decho('b:netrw_curdir<'b:netrw_curdir.">') |else|call Decho("b:netrw_curdir
doesn't exist') |endif
" if exists("g:netrw_sort_by")|call Decho('g:netrw_sort_by<'g:netrw_sort_by.">')|else|call Decho("g:netrw_sort_by
doesn't exist')|endif

" get the list of files contained in the current directory
let dirname = escape(b:netrw_curdir,g:netrw_glob_escape)
if dirname =~ '\.\'
  let dirname = substitute(dirname,['^]*\.\.','.','g')
endif
if dirname == ""
  let dirname = '/'
endif
let dirnamelen = strlen(dirname)
let filelist = glob(s:ComposePath(dirname,"*"))
" call Decho("glob(dirname<".dirname."/ *>)"= filelist)
if filelist != ""
  let filelist= filelist."\n"
endif
let filelist= filelist.glob(s:ComposePath(dirname,"*"))
" call Decho("glob(dirname<".dirname."/ *>)"= filelist)

" Coding
choice: either elide ./ if present
"          or include ./ if not present
if filelist =~ '[\\].[\\]=\(\n\$)'
" elide /path/. from glob() entries if present

```

```

" call Decho("elide /path/. from glob entries if present")
let filelist = substitute(filelist, '\n', 't', 'g')
let filelist = substitute(filelist, '[^\t]+[\\]\.t', ",")
let filelist = substitute(filelist, '[^\t]+[\\].$', ",")
let filelist = substitute(filelist, '\t\zs[^\t]+[\\]\.t', ",")
let filelist = substitute(filelist, 't', '\n', 'g')
endif

" call Decho("filelist<".filelist.">")
if filelist !~ '[\V]\.\.[\V]=\(\n|\$)'
  " include ../ in the glob() entry if its missing
" call Decho("forcibly tacking on ..")
let filelist= filelist." \n".s:ComposePath(dirname, "..")
" call Decho("filelist<".filelist.">")
endif

if dirname == '/'
  " remove .. from filelist when current directory is root directory
" call Decho("remove .. from filelist")
let filelist= substitute(filelist, '\.\.n', ",")
endif

" remove multiple contiguous newlines
let filelist= substitute(filelist, '\n\{2,}', '\n', 'ge')
if !g:netrw_cygwin && (has("win32") || has("win95") || has("win64") || has("win16"))
  " change all \s to /s
" call Decho('change all \s to /s')
let filelist= substitute(filelist, '\s', '/', 'g')
else
  " escape all \s to \\
" call Decho('escape all \s to \\')
let filelist= substitute(filelist, '\s', '\\', 'g')
endif

" call Decho("(before while) dirname<".dirname.">")
" call Decho("(before while) dirnamelen<".dirnamelen.">")
" call Decho("(before while) filelist<".filelist.">")

while filelist != ""
if filelist =~ '\n'
let filename = substitute(filelist, '\n.*$', "", 'e')
let filelist = substitute(filelist, '^.\{-}\n(.*)$', '\1', 'e')
else
let filename = filelist
let filelist = ""
endif
" call Decho(" ")
" call Decho("(while) filelist<".filelist.">")
" call Decho("(while)
filename<".filename.">")

```

```

if filetype(filename) == "link"
  " indicate a symbolic link
" call Decho("indicate <".filename."> is a symbolic link with trailing @")
let pfile= filename."@"

elseif filetype(filename) == "socket"
  " indicate a socket
" call Decho("indicate <".filename."> is a socket with trailing =")
let pfile= filename."="

elseif filetype(filename) == "fifo"
  " indicate a fifo
" call Decho("indicate <".filename."> is a fifo with trailing |")
let pfile= filename."|"

elseif isdirectory(filename)
  " indicate a directory
" call Decho("indicate <".filename."> is a directory with trailing /")
let pfile= filename."/"

elseif exists("b:netrw_curdir") && b:netrw_curdir !~ '^.*://' && !isdirectory(filename)
  if (has("win32") || has("win95") || has("win64") || has("win16"))
    if filename =~ '\.[eE][xX][eE]$\| filename =~ '\.[cC][oO][mM]$\| filename =~ '\.[bB][aA][rR]$\| filename =~ '\.[lL][iN][k]$\| filename =~ '\.[sS][oC][kE]T$'
      " indicate
an executable
" call Decho("indicate <".filename."> is executable with trailing *")
let pfile= filename."*"
    else
      " normal file
let pfile= filename
    endif
elseif executable(filename)
  " indicate an executable
" call Decho("indicate <".filename."> is executable with trailing *")
let pfile= filename."*"
    else
      " normal file
let pfile= filename
    endif

else
  " normal file
let pfile= filename
endif

" call Decho("pfile<".pfile."> (after *@/ appending)")

if pfile =~ '//$'
let pfile= substitute(pfile,'//$','/', 'e')

```



```

" call Decho("change // to /: pfile<".pfile.">")
endif
let pfile= strpart(pfile,dirnamelen)
let pfile= substitute(pfile,'^[\|]',",','e')
" call Decho("filename<".filename.">")
" call Decho("pfile <".pfile.">")

if w:netrw_liststyle == s:LONGLIST
let sz = getfsize(filename)
let fsz = strpart(" ",1,15-s:Strlen(sz)).sz
let pfile= pfile."\t".fsz." ".strftime(g:netrw_timefmt,getftime(filename))
" call Decho("sz="."sz." fsz="."fsz")
endif

if g:netrw_sort_by =~ "^t"
" sort by time (handles time up to 1 quintillion seconds, US)
" call Decho("getftime("".filename."")="".getftime(filename))
let t = getftime(filename)
let ft = strpart("000000000000000000",1,18-s:Strlen(t)).t
" call Decho("exe keepjumps put ="".ft.''.filename."")
let ftpfile= ft.''.pfile
keepjumps silent! put=ftpfile

elseif g:netrw_sort_by =~ "^s"
" sort by size (handles file sizes up to 1 quintillion bytes, US)
" call Decho("getfsize("".filename."")="".getfsize(filename))
let sz = getfsize(filename)
let fsz = strpart("000000000000000000",1,18-s:Strlen(sz)).sz
" call Decho("exe keepjumps put ="".fsz.''.filename."")
let fszpf= fsz.''.pfile
keepjumps silent! put=fszpf

else
" sort by name
" call Decho("exe keepjumps put ="".pfile."")
keepjumps silent! put=pfile
endif
endwhile

" cleanup any windows mess at end-of-line
silent! keepjumps %s\r$/e
exe "setlocal ts="g:netrw_maxfilenamelen
" call Decho("setlocal ts="g:netrw_maxfilenamelen)

" call Dret("s:LocalListing")
endfun

" -----

```

```

" s:LocalBrowseShellCmdRefresh: this function is called after a user has {{2
" performed any shell command. The idea is to cause all local-browsing
" buffers to be refreshed after a user has executed some shell command,
" on the chance that s/he removed/created a file/directory with it.
fun! s:LocalBrowseShellCmdRefresh()
" call Dfunc("LocalBrowseShellCmdRefresh() browselist="(exists("s:netrw_browselist")?
string(s:netrw_browselist) : "empty")." ".tabpagenr("$)." tabs")
" determine which buffers currently reside in a tab
if !exists("s:netrw_browselist")
" call Dret("LocalBrowseShellCmdRefresh : browselist is empty")
return
endif
if !exists("w:netrw_bannercnt")
" call Dret("LocalBrowseShellCmdRefresh : don't refresh when focus not on netrw window")
return
endif
if exists("s:locbrowseshellcmd")
if s:locbrowseshellcmd
let s:locbrowseshellcmd= 0
" call Dret("LocalBrowseShellCmdRefresh : NetrwBrowse itself caused the refresh")
return
endif
let s:locbrowseshellcmd= 0
endif
let itab = 1
let buftablist = []
while itab <= tabpagenr("$")
let buftablist = buftablist + tabpagebuflist()
let itab = itab + 1
tabn
endwhile
" call Decho("buftablist".string(buftablist))
" call Decho("s:netrw_browselist<"(exists("s:netrw_browselist")? string(s:netrw_browselist) : "").">")
" GO through all buffers on netrw_browselist (ie. just local-netrw buffers):
" | refresh any netrw window
" | wipe out any non-displaying netrw buffer
let curwin = winnr()
let ibl = 0
for ibuf in s:netrw_browselist
" call Decho("bufwinnr(".ibuf.")
index(buftablist,".ibuf.")=index(buftablist,ibuf)
if bufwinnr(ibuf) == -1 && index(buftablist,ibuf) == -1
" wipe out any non-displaying netrw buffer
" call Decho("wiping buf#" .ibuf,"<" .bufname(ibuf).">")
exe "silent! bd ".fnameescape(ibuf)
call remove(s:netrw_browselist,ibl)
" call Decho("browselist=".string(s:netrw_browselist))
continue

```

```

elseif index(tabpagebuflist(),ibuf) != -1
    " refresh any netrw buffer
"   call Decho("refresh buf#" .ibuf.'-> win#'.bufwinnr(ibuf))
    exe bufwinnr(ibuf)."wincmd w"
    call s:NetrwRefresh(1,s:NetrwBrowseChgDir(1,'./'))
endif
let ibl= ibl + 1
endfor
exe curwin."wincmd w"

" call Dret("LocalBrowseShellCmdRefresh")
endfun

" -----
" s:NetrwLocalRm: {{{2
fun! s:NetrwLocalRm(path) range
"   call Dfunc("s:NetrwLocalRm(path<".a:path.">")")
"   call Decho("firstline=" .a:firstline." lastline=" .a:lastline)

" preparation for removing multiple files/directories
let ret = 0
let all = 0
let svpos = netrw#NetrwSavePosn()

if exists("s:netrwmarkfilelist_{bufnr('%')}")
"   remove all marked files
"   call Decho("remove all marked files")
for fname in s:netrwmarkfilelist_{bufnr("%")}
let ok= s:NetrwLocalRmFile(a:path,fname,all)
if ok =~ 'q\%[uit]' || ok == "no"
break
elseif ok =~ 'a\%[ll]'
let all= 1
endif
endfor
call s:NetrwUnMarkFile(1)

else
"   remove (multiple) files and directories
"   call Decho("remove files in range [" .a:firstline." ." .a:lastline." ]")

let ctr = a:firstline
while ctr <= a:lastline
exe "keepjumps " .ctr

"   sanity checks
if line(".") < w:netrw_bannercnt
let ctr= ctr + 1

```

```

    continue
endif
let curword= s:NetrwGetWord()
if curword == "./" || curword == "../"
    let ctr= ctr + 1
    continue
endif
let ok= s:NetrwLocalRmFile(a:path,curword,all)
if ok =~ 'q\[uit]' || ok == "no"
    break
elseif ok =~ 'a\[ll]'
    let all= 1
endif
let ctr= ctr + 1
endwhile
endif

" refresh the directory
" call Decho("bufname<".bufname("%").">")
if bufname("%") != "NetrwMessage"
    call s:NetrwRefresh(1,s:NetrwBrowseChgDir(1,./))
    call netrw#NetrwRestorePosn(svpos)
endif

" call Dret("s:NetrwLocalRm")
endfun

" -----
" s:NetrwLocalRmFile: remove file fname given the path {{ 2
"         Give confirmation prompt unless all==1
fun! s:NetrwLocalRmFile(path,fname,all)
" call Dfunc("s:NetrwLocalRmFile(path<".a:path."> fname<".a:fname."> all="a:all)

let all= a:all
let ok = ""
norm! 0
let rmfile= s:ComposePath(a:path,a:fname)
" call Decho("rmfile<".rmfile.">")

if rmfile !~ '^"' && (rmfile =~ '@$' || rmfile !~ '[V/$]')
" attempt to remove file
" call Decho("attempt to remove file<".rmfile.">")
if !all
    echohl Statement
    call inputsave()
    let ok= input("Confirm deletion of file<".rmfile."> ", "[y(es)},n(o),a(ll),q(uit)] ")
    call inputrestore()
    echohl NONE

```

```

if ok == ""
  let ok="no"
endif
" call Decho("response: ok<" .ok.">")
let ok= substitute(ok,\[ {y(es)},n(o),a(ll),q(uit)]\s*','e')
" call Decho("response: ok<" .ok."> (after sub)")
if ok =~ 'a\[ll]'
  let all= 1
endif
endif

if all || ok =~ 'y\[es]' || ok == ""
  let ret= s:NetrwDelete(rmfile)
" call Decho("errcode=" .v:shell_error." ret=" .ret)
endif

else
" attempt to remove directory
if !all
  echohl Statement
  call inputsave()
  let ok= input("Confirm deletion of directory<" .rmfile."> ",\[ {y(es)},n(o),a(ll),q(uit)] ")
  call inputrestore()
  let ok= substitute(ok,\[ {y(es)},n(o),a(ll),q(uit)]\s*','e')
  if ok == ""
    let ok="no"
  endif
  if ok =~ 'a\[ll]'
    let all= 1
  endif
  endif
  let rmfile= substitute(rmfile,'[V]$',','e')

if all || ok =~ 'y\[es]' || ok == ""
" call Decho("1st attempt: system(s:WinPath(" .g:netrw_local_rmdir.' ) .shellescape(rmfile).' )
call system(s:WinPath(g:netrw_local_rmdir.' ) .shellescape(rmfile))
" call Decho("v:shell_error=" .v:shell_error)

if v:shell_error != 0
" call Decho("2nd attempt to remove directory<" .rmfile.">")
let errcode= s:NetrwDelete(rmfile)
" call Decho("errcode=" .errcode)

if errcode != 0
  if has("unix")
" call Decho("3rd attempt to remove directory<" .rmfile.">")
call system("rm " .shellescape(rmfile))
if v:shell_error != 0 && !exists("g:netrw_quiet")

```

```

    call netrw#ErrorMsg(s:ERROR,"unable to remove directory<".rmfile."> -- is it empty?",34)
let ok="no"
    endif
    elseif !exists("g:netrw_quiet")
    call netrw#ErrorMsg(s:ERROR,"unable to remove directory<".rmfile."> -- is it empty?",35)
    let ok="no"
    endif
    endif
    endif
    endif
    endif

" call Dret("s:NetrwLocalRmFile ".ok)
return ok
endfun

" -----
" s:NetrwLocalRename: rename a remote file or directory {{{2
fun! s:NetrwLocalRename(path) range
" call Dfunc("NetrwLocalRename(path<".a:path.">)")

" preparation for removing multiple files/directories
let ctr = a:firstline
let svpos= netrw#NetrwSavePosn()

" rename files given by the markfilelist
if exists("s:netrwmarkfilelist_{bufnr('%')}")
for oldname in s:netrwmarkfilelist_{bufnr("%")}
" call Decho("oldname<".oldname.">")
if exists("subfrom")
let newname= substitute(oldname,subfrom,subto,"")
" call Decho("subfrom<".subfrom."> subto<".subto."> newname<".newname.">")
else
call inputsave()
let newname= input("Moving ".oldname." to : ",oldname)
call inputrestore()
if newname =~ '^s/'
let subfrom = substitute(newname,'^s^\([^/]*\)'.*$/$',\1,"")
let subto = substitute(newname,'^s/^\([^/]*\)'.*$/$',\1,"")
" call Decho("subfrom<".subfrom."> subto<".subto."> newname<".newname.">")
let newname = substitute(oldname,subfrom,subto,"")
endif
endif
call rename(oldname,newname)
endfor
call s:NetrwUnmarkList(bufnr("%"),b:netrw_curdir)

else

```

```

" attempt to rename files/directories
while ctr <= a:lastline
  exe "keepjumps ".ctr

" sanity checks
if line(".") < w:netrw_bannercnt
  let ctr= ctr + 1
  continue
endif
let curword= s:NetrwGetWord()
if curword == "./" || curword == "../"
  let ctr= ctr + 1
  continue
endif

norm! 0
let oldname= s:ComposePath(a:path,curword)
" call Decho("oldname<".oldname.">")

call inputsave()
let newname= input("Moving ".oldname." to : ",substitute(oldname,'*$',", 'e'))
call inputrestore()

call rename(oldname,newname)
" call Decho("renaming
<".oldname."> to <".newname.">")

  let ctr= ctr + 1
endwhile
endif

" refresh the directory
" call Decho("refresh the directory listing")
call s:NetrwRefresh(1,s:NetrwBrowseChgDir(1,'/'))
call netrw#NetrwRestorePosn(svpos)

" call Dret("NetrwLocalRename")
endfun

" -----
" s:LocalFastBrowser: handles setting up/taking down fast browsing for the local browser {{{2
"
"   g:netrw_  Directory Is
"   fastbrowse Local Remote
" slow 0    D  D    D=Deleting a buffer implies it will not be re-used (slow)
" med  1    D  H    H=Hiding a buffer implies it may be re-used    (fast)
" fast 2    H  H

```

```

"
" Deleting a buffer means that it will be re-loaded when examined, hence "slow".
" Hiding a buffer means that it will be re-used when examined, hence "fast".
" (re-using a buffer may not be as accurate)
fun! s:LocalFastBrowser()
"
    call Dfunc("LocalFastBrowser() g:netrw_fastbrowse=".g:netrw_fastbrowse)

" initialize browselist, a list of buffer numbers that the local browser has used
if !exists("s:netrw_browselist")
" call Decho("initialize s:netrw_browselist")
let s:netrw_browselist= []
endif

" append current buffer to fastbrowse list
if empty(s:netrw_browselist) || bufnr("%") > s:netrw_browselist[-1]
" call Decho("appendng current buffer to browselist")
call add(s:netrw_browselist,bufnr("%"))
" call Decho("browselist=".string(s:netrw_browselist))
endif

" enable autocmd events to handle refreshing/removing local browser buffers
" If local browse buffer is currently showing: refresh it
" If local browse buffer is currently hidden : wipe it
if !exists("s:netrw_browser_shellcmd") && g:netrw_fastbrowse <= 1
" call Decho("setting up local-browser shell command refresh")
let s:netrw_browser_shellcmd= 1
augroup AuNetrwShellCmd
au!
if (has("win32") || has("win95") || has("win64") || has("win16"))
" call Decho("autocmd: ShellCmdPost * call s:LocalBrowseShellCmdRefresh()")
au ShellCmdPost * call s:LocalBrowseShellCmdRefresh()
else
au ShellCmdPost,FocusGained * call s:LocalBrowseShellCmdRefresh()
" call Decho("autocmd: ShellCmdPost,FocusGained * call s:LocalBrowseShellCmdRefresh()")
endif
augroup END
endif

" user must have changed fastbrowse to its fast setting, so remove
" the associated autocmd events
if g:netrw_fastbrowse > 1 && exists("s:netrw_browser_shellcmd")
" call Decho("remove AuNetrwShellCmd autocmd group")
unlet s:netrw_browser_shellcmd
augroup AuNetrwShellCmd
au!
augroup END
augroup! AuNetrwShellCmd

```



```

endif

" call Dret("LocalFastBrowser : browselist<".string(s:netrw_browselist.">")
endfun

" -----
" Support Functions: {{{1

" -----
"
netrw#ErrorMsg: {{{2
" 0=note   = s:NOTE
" 1=warning = s:WARNING
" 2=error   = s:ERROR
" Oct 12, 2008 : max errnum currently is 73
fun! netrw#ErrorMsg(level,msg,errnum)
" call Dfunc("netrw#ErrorMsg(level=".a:level." msg<".a:msg."> errnum=".a:errnum.")
:g:netrw_use_errorwindow=".g:netrw_use_errorwindow)

if a:level == 1
  let level= "***warning**" (netrw) "
elseif a:level == 2
  let level= "***error**" (netrw) "
else
  let level= "***note**" (netrw) "
endif
" call Decho("level=".level)

if g:netrw_use_errorwindow
" (default) netrw creates a one-line window to show error/warning
" messages (reliably displayed)

" record current window number for NetrwRestorePosn()'s benefit
let s:winBeforeErr= winnr()
" call Decho("s:winBeforeErr=".s:winBeforeErr)

" getting messages out reliably is just plain difficult!
" This attempt splits the current window, creating a one line window.
if bufexists("NetrwMessage") && bufwinnr("NetrwMessage") > 0
" call Decho("write to NetrwMessage buffer")
exe bufwinnr("NetrwMessage")."wincmd w"
" call Decho("setlocal ma noro")
setlocal ma noro
call setline(line("$")+1,level.a:msg)
$
else
" call Decho("create a NetrwMessage buffer window")
bo 1split

```

```

enew
setlocal bt=nofile
file NetrwMessage
" call Decho("setlocal ma noro")
setlocal ma noro
call setline(line("$"),level.a:msg)
endif
" call Decho("wrote msg<".level.a:msg."> to NetrwMessage win#".winnr())
if &fo !~ '[ta]'
syn clear
syn match netrwMesgNote "\|^|*note|^|"
syn match netrwMesgWarning "\|^|*warning|^|"
syn match netrwMesgError "\|^|*error|^|"
hi link netrwMesgWarning WarningMsg
hi link netrwMesgError Error
endif
setlocal noma ro bh=wipe

else
" (optional) netrw will show messages using echomsg. Even if the
" message doesn't appear, at least
it'll be recallable via :messages
" redraw!
if a:level == s:WARNING
echohl WarningMsg
elseif a:level == s:ERROR
echohl Error
endif
echomsg level.a:msg
" call Decho("echomsg ***netrw*** ".a:msg)
echohl None
endif

" call Dret("netrw#ErrorMsg")
endfun

" -----
" netrw#NetrwRestorePosn: restores the cursor and file position as saved by NetrwSavePosn() {{{2
fun! netrw#NetrwRestorePosn(...)
" call Dfunc("netrw#NetrwRestorePosn() a:0=".a:0." winnr=".(exists("w:netrw_winnr"))? w:netrw_winnr : -1)."
line=".(exists("w:netrw_line"))? w:netrw_line : -1)." col=".(exists("w:netrw_col"))? w:netrw_col : -1)."
hline=".(exists("w:netrw_hline"))? w:netrw_hline : -1))
let eikeep= &ei
set ei=all
if expand("%") == "NetrwMessage"
exe s:winBeforeErr."wincmd w"
endif

```

```

if a:0 > 0
  exe a:1
endif

" restore window
if exists("w:netrw_winnr")
"  call Decho("restore window:
exe silent! ".w:netrw_winnr."wincmd w")
  exe "silent! ".w:netrw_winnr."wincmd w"
endif
if v:shell_error == 0
  " as suggested by Bram M: redraw on no error
  " allows protocol error messages to remain visible
"  redraw!
endif

" restore top-of-screen line
if exists("w:netrw_hline")
"  call Decho("restore topofscreen: exe norm! ".w:netrw_hline."G0z")
  exe "norm! ".w:netrw_hline."G0z\<CR>"
endif

" restore position
if exists("w:netrw_line") && exists("w:netrw_col")
"  call Decho("restore posn: exe norm! ".w:netrw_line."G0".w:netrw_col."|")
  exe "norm! ".w:netrw_line."G0".w:netrw_col."|\<bar>"
endif

let &ei= eikeep
" call Dret("netrw#NetrwRestorePosn")
endfun

" -----
" netrw#NetrwSavePosn: saves position of cursor on screen {{{2
fun! netrw#NetrwSavePosn()
"  call Dfunc("netrw#NetrwSavePosn()")
" Save current line and column
let w:netrw_winnr= winnr()

let w:netrw_line = line(".")
let w:netrw_col = virtcol(".")

" Save top-of-screen line
norm! H0
let w:netrw_hline= line(".")

" set up string holding position parameters
let ret      = "let w:netrw_winnr=".w:netrw_winnr."|let w:netrw_line=".w:netrw_line."|let

```

```

w:netrw_col=".w:netrw_col."|let w:netrw_hline=".w:netrw_hline

call netrw#NetrwRestorePosn()
" call Dret("netrw#NetrwSavePosn : winnr=".w:netrw_winnr." line=".w:netrw_line." col=".w:netrw_col."
hline=".w:netrw_hline)
return ret
endfun

" -----
" netrw#RFC2396: converts %xx into characters {{{2
fun! netrw#RFC2396(fname)
" call Dfunc("netrw#RFC2396(fname<"a:fname.">")")
let fname = escape(substitute(a:fname,'%\(\x\x\)','\=nr2char("0x".submatch(1))','ge'),'t')
" call Dret("netrw#RFC2396 ".fname)
return fname
endfun

" -----
" s:ComposePath: Appends
a new part to a path taking different systems into consideration {{{2
fun! s:ComposePath(base,subdir)
" call Dfunc("s:ComposePath(base<"a:base."> subdir<"a:subdir.">")")

if(has("amiga"))
" call Decho("amiga")
let ec = a:base[strlen(a:base)-1]
if ec != '/' && ec != ':'
let ret = a:base . "/" . a:subdir
else
let ret = a:base . a:subdir
endif

elseif a:subdir =~ '\^a:[^\[][\^^\]' && (has("win32") || has("win95") || has("win64") || has("win16"))
" call Decho("windows")
let ret= a:subdir

elseif a:base =~ '\^a\+://'
" call Decho("remote linux/macos")
let urlbase = substitute(a:base,'\^(\a\+://\{-}\^)(\.*\)$','\1,')
let curpath = substitute(a:base,'\^(\a\+://\{-}\^)(\.*\)$','\2,')
if a:subdir == './'
if curpath =~ '[^\]/[^\]\+/$'
let curpath= substitute(curpath,'[^\]\+/$','')
else
let curpath=""
endif
let ret= urlbase.curpath
else

```

```

    let ret= urlbase.curpath.a:subdir
endif
"
    call Decho("urlbase<".urlbase.">")
" call Decho("curpath<".curpath.">")
" call Decho("ret<".ret.">")

else
" call Decho("local linux/macos")
let ret = substitute(a:base."/".a:subdir,"//","/", "g")
if a:base =~ '^/'
    " keeping initial '/' for the benefit of network share listing support
    let ret= '/' .ret
endif
let ret= simplify(ret)
endif

" call Dret("s:ComposePath ".ret)
return ret
endfun

" -----
" s:FileReadable: o/s independent filereadable {{{2
fun! s:FileReadable(fname)
" call Dfunc("s:FileReadable(fname<".a:fname.">")

if g:netrw_cygwin
    let ret= filereadable(substitute(a:fname,'/cygdrive/^(.)','\1:',))
else
    let ret= filereadable(a:fname)
endif

" call Dret("s:FileReadable ".ret)
return ret
endfun

" -----
" s:GetTempfile: gets a tempname that'll work for various
o/s's {{{2
"         Places correct suffix on end of temporary filename,
"         using the suffix provided with fname
fun! s:GetTempfile(fname)
" call Dfunc("s:GetTempfile(fname<".a:fname.">")

if !exists("b:netrw_tmpfile")
" get a brand new temporary filename
let tmpfile= tempname()
" call Decho("tmpfile<".tmpfile."> : from tempname()")

```

```

let tmpfile= substitute(tmpfile,'\','ge')
" call Decho("tmpfile<".tmpfile."> : chgd any \> -> /")

" sanity check -- does the temporary file's directory exist?
if !isdirectory(substitute(tmpfile,['^/]+\$',','e'))
" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
call netrw#ErrorMsg(s:ERROR,"your <".substitute(tmpfile,['^/]+\$',','e')." > directory is missing!",2)
" call Dret("s:GetTempfile getcwd<".getcwd()." >")
return ""
endif

" let netrw#NetSource() know about the tmpfile
let s:netrw_tmpfile= tmpfile " used by netrw#NetSource() and netrw#NetrwBrowseX()
"
call Decho("tmpfile<".tmpfile."> s:netrw_tmpfile<".s:netrw_tmpfile.">")

" o/s dependencies
if g:netrw_cygwin != 0
let tmpfile = substitute(tmpfile,'^\(\\a\):!;/cygdrive/1','e')
elseif has("win32") || has("win95") || has("win64") || has("win16")
if !exists("+shellslash") || !&ssl
let tmpfile = substitute(tmpfile,'/','\','g')
endif
else
let tmpfile = tmpfile
endif
let b:netrw_tmpfile= tmpfile
" call Decho("o/s dependent fixed tempname<".tmpfile.">")
else
" re-use temporary filename
let tmpfile= b:netrw_tmpfile
" call Decho("tmpfile<".tmpfile."> re-using")
endif

" use fname's suffix for the temporary file
if a:fname != ""
if a:fname =~ '\.[^./]+\$'
" call Decho("using fname<".a:fname.">'s suffix")
if a:fname =~ '.tar.gz' || a:fname =~ '.tar.bz2'
let suffix = ".tar".substitute(a:fname,'^.*\([^\./]+\)$','1','e')
else
let suffix = substitute(a:fname,'^.*\([^\./]+\)$','1','e')
endif
" call Decho("suffix<".suffix.">")
let tmpfile= substitute(tmpfile,'\.tmp$',','e')
" call Decho("chgd tmpfile<".tmpfile."> (removed any .tmp suffix)")
let tmpfile .= suffix

```

```

" call Decho("chgd tmpfile<".tmpfile."> (added ".suffix." suffix) netrw_fname<".b:netrw_fname.">")
  let s:netrw_tmpfile= tmpfile " supports netrw#NetSource()
endif
endif

" call Decho("ro=".&l:ro." ma=".&l:ma." mod=".&l:mod." wrap=".&l:wrap)
" call Dret("s:GetTempfile <".tmpfile.">")
return tmpfile
endfun

" -----
" s:MakeSshCmd: transforms input command using USEPORT HOSTNAME into {{{2
"       a correct command for use with a system() call
fun! s:MakeSshCmd(sshcmd)
" call Dfunc("s:MakeSshCmd(sshcmd<".a:sshcmd.">) user<".s:user."> machine<".s:machine.">")
let sshcmd = substitute(a:sshcmd,\,s:user.s:machine,")
if exists("g:netrw_port") && g:netrw_port
!= ""
  let sshcmd= substitute(sshcmd,"USEPORT",g:netrw_sshport.' 'g:netrw_port,")
elseif exists("s:port") && s:port != ""
  let sshcmd= substitute(sshcmd,"USEPORT",g:netrw_sshport.' 's:port,")
else
  let sshcmd= substitute(sshcmd,"USEPORT ","",")
endif
" call Dret("s:MakeSshCmd <".sshcmd.">")
return sshcmd
endfun

" -----
" s:NetrwBMSHOW: {{{2
fun! s:NetrwBMSHOW()
" call Dfunc("s:NetrwBMSHOW()")
redir => bmsHOWraw
menu
redir END
let bmsHOWlist = split(bmsHOWraw,\)
if bmsHOWlist != []
  let bmsHOWfuncs= filter(bmsHOWlist,v:val =~ "<SNR>\\d\\+_BMSHOW()")
  if bmsHOWfuncs != []
    let bmsHOWfunc = substitute(bmsHOWfuncs[0],'^.*:\\(call.*BMSHOW()\\).*$',\\1,")
    if bmsHOWfunc =~ '^call.*BMSHOW()'
      exe "silent! ".bmsHOWfunc
    endif
  endif
endif
" call Dret("s:NetrwBMSHOW : bmsHOWfunc<".(exists("bmsHOWfunc")? bmsHOWfunc : 'n/a').">")
endfun

```

```

"
-----
" s:NetrwDelete: Deletes a file. {{{2
"     Uses Steve Hall's idea to insure that Windows paths stay
"     acceptable. No effect on Unix paths.
" Examples of use: let result= s:NetrwDelete(path)
fun! s:NetrwDelete(path)
" call Dfunc("s:NetrwDelete(path<"a:path.">)")

let path = s:WinPath(a:path)
if !g:netrw_cygwin && (has("win32") || has("win95") || has("win64") || has("win16"))
if exists("+shellslash")
let sskeep= &shellslash
setlocal noshellslash
let result = delete(path)
let &shellslash = sskeep
else
" call Decho("exe let result= ".a:cmd."("".path."")")
let result= delete(path)
endif
else
" call Decho("let result= delete("".path."")")
let result= delete(path)
endif
if result < 0
call netrw#ErrorMsg(s:WARNING,"delete("".path."") failed!",71)
endif

" call Dret("s:NetrwDelete ".result)
return result
endfun

" -----
"
s:NetrwEnew: opens a new buffer, passes netrw buffer variables through {{{2
fun! s:NetrwEnew(curdir)
" call Dfunc("s:NetrwEnew(curdir<"a:curdir.">) buf#"bufnr("%")."<"bufname("%").">")

" grab a function-local-variable copy of buffer variables
if exists("b:netrw_bannercnt") |let netrw_bannercnt = b:netrw_bannercnt |endif
if exists("b:netrw_browser_active") |let netrw_browser_active = b:netrw_browser_active |endif
if exists("b:netrw_cpf") |let netrw_cpf = b:netrw_cpf |endif
if exists("b:netrw_curdir") |let netrw_curdir = b:netrw_curdir |endif
if exists("b:netrw_explore_bufnr") |let netrw_explore_bufnr = b:netrw_explore_bufnr |endif
if exists("b:netrw_explore_indx") |let netrw_explore_indx = b:netrw_explore_indx |endif
if exists("b:netrw_explore_line") |let netrw_explore_line = b:netrw_explore_line
|endif
if exists("b:netrw_explore_list") |let netrw_explore_list = b:netrw_explore_list |endif

```



```

if exists("b:netrw_explore_listlen")|let netrw_explore_listlen = b:netrw_explore_listlen|endif
if exists("b:netrw_explore_mtchcnt")|let netrw_explore_mtchcnt = b:netrw_explore_mtchcnt|endif
if exists("b:netrw_fname")      |let netrw_fname      = b:netrw_fname      |endif
if exists("b:netrw_lastfile")   |let netrw_lastfile   = b:netrw_lastfile   |endif
if exists("b:netrw_liststyle")  |let netrw_liststyle  = b:netrw_liststyle  |endif
if exists("b:netrw_method")     |let netrw_method     = b:netrw_method     |endif
if exists("b:netrw_option")     |let netrw_option     = b:netrw_option     |endif
if exists("b:netrw_prvdir")     |let netrw_prvdir     = b:netrw_prvdir     |endif

call s:NetrwOptionRestore("w:")
" call Decho("generate a buffer with keepjumps keepalt anew!")
keepjumps
keepalt anew!
call s:NetrwOptionSave("w:")

" copy function-local-variables to buffer variable equivalents
if exists("netrw_bannercnt")    |let b:netrw_bannercnt    = netrw_bannercnt    |endif
if exists("netrw_browser_active")|let b:netrw_browser_active = netrw_browser_active|endif
if exists("netrw_cpf")         |let b:netrw_cpf         = netrw_cpf         |endif
if exists("netrw_curdir")      |let b:netrw_curdir      = netrw_curdir      |endif
if exists("netrw_explore_bufnr")|let b:netrw_explore_bufnr = netrw_explore_bufnr|endif
if exists("netrw_explore_indx")|let b:netrw_explore_indx  = netrw_explore_indx |endif
if exists("netrw_explore_line")|let b:netrw_explore_line  = netrw_explore_line |endif
if exists("netrw_explore_list")|let b:netrw_explore_list  = netrw_explore_list |endif
if exists("netrw_explore_listlen")|let b:netrw_explore_listlen = netrw_explore_listlen|endif
if exists("netrw_explore_mtchcnt")|let
b:netrw_explore_mtchcnt = netrw_explore_mtchcnt|endif
if exists("netrw_fname")      |let b:netrw_fname      = netrw_fname      |endif
if exists("netrw_lastfile")   |let b:netrw_lastfile   = netrw_lastfile   |endif
if exists("netrw_liststyle")  |let b:netrw_liststyle  = netrw_liststyle  |endif
if exists("netrw_method")     |let b:netrw_method     = netrw_method     |endif
if exists("netrw_option")     |let b:netrw_option     = netrw_option     |endif
if exists("netrw_prvdir")     |let b:netrw_prvdir     = netrw_prvdir     |endif

let b:netrw_curdir= a:curdir
if b:netrw_curdir =~ '$'
if exists("w:netrw_liststyle") && w:netrw_liststyle == s:TREELIST
file NetrwTreeListing
nno <silent> <buffer> [ :silent call <SID>TreeListMove([']<cr>
nno <silent> <buffer> ] :silent call <SID>TreeListMove(']<cr>
else
exe "silent! keepalt file ".fnameescape(b:netrw_curdir)
endif
endif

" call Dret("s:NetrwEnew : buf#".bufnr("%")."<".bufname("%")."> expand(%<".expand("%").">
expand(#)<".expand("#").">")
endfun

```

```

" -----
" s:NetrwSaveWordPosn: used to keep cursor on same word after refresh, {{{2
" changed sorting, etc. Also see s:NetrwRestoreWordPosn().
fun! s:NetrwSaveWordPosn()
" call Dfunc("NetrwSaveWordPosn()")
let s:netrw_saveword= '^'.fnameescape(getline('.')).'$'
" call Dret("NetrwSaveWordPosn : saveword<".s:netrw_saveword.">")
endfun

" -----
" s:NetrwRestoreWordPosn: used to keep cursor on same word after refresh, {{{2
" changed sorting, etc. Also see s:NetrwSaveWordPosn().
fun! s:NetrwRestoreWordPosn()
" call Dfunc("NetrwRestoreWordPosn()")
silent! call search(s:netrw_saveword,'w')
" call Dret("NetrwRestoreWordPosn")
endfun

" -----
"
s:RestoreBufVars: {{{2
fun! s:RestoreBufVars()
" call Dfunc("s:RestoreBufVars()")

if exists("s:netrw_curdir") |let b:netrw_curdir = s:netrw_curdir |endif
if exists("s:netrw_lastfile") |let b:netrw_lastfile = s:netrw_lastfile |endif
if exists("s:netrw_method") |let b:netrw_method = s:netrw_method |endif
if exists("s:netrw_fname") |let b:netrw_fname = s:netrw_fname |endif
if exists("s:netrw_machine") |let b:netrw_machine = s:netrw_machine |endif
if exists("s:netrw_browser_active")|let b:netrw_browser_active = s:netrw_browser_active|endif

" call Dret("s:RestoreBufVars")
endfun

" -----
" s:RemotePathAnalysis: {{{2
fun! s:RemotePathAnalysis(dirname)
" call Dfunc("s:RemotePathAnalysis()")

let dirpat = '^(\w\{-})/^\(\w\|+@\)\|=\([^\:#\|+)]\|%\([:#\|(\d\|+)\)\|=\^(.*)$'
let s:method = substitute(a:dirname,dirpat,'\1',"")
let s:user = substitute(a:dirname,dirpat,'\2',"")
let s:machine = substitute(a:dirname,dirpat,'\3',"")
let s:port = substitute(a:dirname,dirpat,'\4',"")
let s:path = substitute(a:dirname,dirpat,'\5',"")
let s:fname = substitute(a:dirname,'^.*\ze.','',"")

```

```

" call Decho("set up s:method <".s:method.">")
" call Decho("set up s:user <".s:user.">")
" call Decho("set up s:machine<".s:machine.">")
" call Decho("set up s:port <".s:port.">")
" call Decho("set up s:path <".s:path.">")
" call Decho("set up s:fname <".s:fname.">")

" call Dret("s:RemotePathAnalysis")
endfun

" -----
" s:RemoteSystem: runs a command on a remote host using ssh {{{2
"     Returns status
" Runs system() on
" [cd REMOTEDIRPATH;] a:cmd
" Note that it doesn't do shellescape(a:cmd)!
fun! s:RemoteSystem(cmd)
"
    call Dfunc("s:RemoteSystem(cmd<".a:cmd.">")")
    if !executable(g:netrw_ssh_cmd)
        call netrw#ErrorMsg(s:ERROR,"g:netrw_ssh_cmd<".g:netrw_ssh_cmd."> is not executable!",52)
    elseif !exists("b:netrw_curdir")
        call netrw#ErrorMsg(s:ERROR,"for some reason b:netrw_curdir doesn't exist!",53)
    else
        let cmd = s:MakeSshCmd(g:netrw_ssh_cmd." USEPORT HOSTNAME")
        let remotedir= substitute(b:netrw_curdir,'^.*#[^/]\+^\(.*\)$','\1',")
        if remotedir != ""
            let cmd= cmd.' cd '.shellescape(remotedir).";"
        else
            let cmd= cmd.' '
        endif
        let cmd= cmd.a:cmd
" call Decho("call system(".cmd.")")
        let ret= system(cmd)
    endif
" call Dret("s:RemoteSystem ".ret)
    return ret
endfun

" -----
" s:RestoreWinVars: (used by Explore() and NetrwSplit()) {{{2
fun! s:RestoreWinVars()
" call Dfunc("s:RestoreWinVars()")
if exists("s:bannercnt") |let w:netrw_bannercnt
= s:bannercnt |unlet s:bannercnt |endif
if exists("s:col") |let w:netrw_col = s:col |unlet s:col |endif
if exists("s:curdir") |let w:netrw_curdir = s:curdir |unlet s:curdir |endif
if exists("s:explore_bufnr") |let w:netrw_explore_bufnr = s:explore_bufnr |unlet s:explore_bufnr |endif

```

```

if exists("s:explore_indx") |let w:netrw_explore_indx = s:explore_indx |unlet s:explore_indx |endif
if exists("s:explore_line") |let w:netrw_explore_line = s:explore_line |unlet s:explore_line |endif
if exists("s:explore_listlen")|let w:netrw_explore_listlen = s:explore_listlen|unlet s:explore_listlen|endif
if exists("s:explore_list") |let w:netrw_explore_list = s:explore_list |unlet s:explore_list |endif
if exists("s:explore_mtchcnt")|let w:netrw_explore_mtchcnt = s:explore_mtchcnt|unlet s:explore_mtchcnt|endif
if exists("s:fpl")          |let w:netrw_fpl
    = s:fpl          |unlet s:fpl          |endif
if exists("s:hline")      |let w:netrw_hline      = s:hline      |unlet s:hline      |endif
if exists("s:line")      |let w:netrw_line      = s:line      |unlet s:line      |endif
if exists("s:liststyle") |let w:netrw_liststyle = s:liststyle |unlet s:liststyle |endif
if exists("s:method")   |let w:netrw_method   = s:method   |unlet s:method   |endif
if exists("s:prvdir")   |let w:netrw_prvdir   = s:prvdir   |unlet s:prvdir   |endif
if exists("s:treedict") |let w:netrw_treedict = s:treedict |unlet s:treedict |endif
if exists("s:treetop")  |let w:netrw_treetop  = s:treetop  |unlet s:treetop  |endif
if exists("s:winnr")    |let w:netrw_winnr    = s:winnr    |unlet s:winnr    |endif
" call Dret("s:RestoreWinVars")
endfun

```

"

-----  
"s:Rexplore: implements returning from a buffer to a netrw directory {{{2

"

" s:SetRexDir() sets up <2-leftmouse> maps (if g:netrw\_retmap  
" is true) and a command, :Rexplore, which call this function.

"

" s:nbcd\_curpos\_{bufnr('%')} is set up by s:NetrwBrowseChgDir()

fun! s:NetrwRexplore(islocal,dirname)

" call Dfunc("s:NetrwRexplore(islocal=" . a:islocal . " dirname<" . a:dirname . ">")")

if a:islocal

call netrw#LocalBrowseCheck(a:dirname)

else

call s:NetrwBrowse(0,a:dirname)

endif

if exists("s:nbcd\_curpos\_{bufnr('%')}")

call netrw#NetrwRestorePosn(s:nbcd\_curpos\_{bufnr('%')})

unlet s:nbcd\_curpos\_{bufnr('%')}

endif

" call Dret("s:NetrwRexplore")

endfun

"

-----  
"s:SaveBufVars: {{{2

fun! s:SaveBufVars()

" call Dfunc("s:SaveBufVars()")

if exists("b:netrw\_curdir") |let

s:netrw\_curdir = b:netrw\_curdir |endif

if exists("b:netrw\_lastfile") |let s:netrw\_lastfile = b:netrw\_lastfile |endif

```

if exists("b:netrw_method") |let s:netrw_method = b:netrw_method |endif
if exists("b:netrw_fname") |let s:netrw_fname = b:netrw_fname |endif
if exists("b:netrw_machine") |let s:netrw_machine = b:netrw_machine |endif
if exists("b:netrw_browser_active")|let s:netrw_browser_active = b:netrw_browser_active|endif

```

```

" call Dret("s:SaveBufVars")
endfun

```

```

" -----
" s:SaveWinVars: (used by Explore() and NetrwSplit()) {{{2

```

```

fun! s:SaveWinVars()
" call Dfunc("s:SaveWinVars()")
if exists("w:netrw_bannercnt") |let s:bannercnt = w:netrw_bannercnt |endif
if exists("w:netrw_col") |let s:col = w:netrw_col |endif
if exists("w:netrw_curdir")
|let s:curdir = w:netrw_curdir |endif
if exists("w:netrw_explore_bufnr") |let s:explore_bufnr = w:netrw_explore_bufnr |endif
if exists("w:netrw_explore_indx") |let s:explore_indx = w:netrw_explore_indx |endif
if exists("w:netrw_explore_line") |let s:explore_line = w:netrw_explore_line |endif
if exists("w:netrw_explore_listlen")|let s:explore_listlen = w:netrw_explore_listlen|endif
if exists("w:netrw_explore_list") |let s:explore_list = w:netrw_explore_list |endif
if exists("w:netrw_explore_mtchcnt")|let s:explore_mtchcnt = w:netrw_explore_mtchcnt|endif
if exists("w:netrw_fpl") |let s:fpl = w:netrw_fpl |endif
if exists("w:netrw_hline") |let s:hline = w:netrw_hline |endif
if exists("w:netrw_line") |let s:line = w:netrw_line |endif
if exists("w:netrw_liststyle") |let s:liststyle = w:netrw_liststyle |endif
if
exists("w:netrw_method") |let s:method = w:netrw_method |endif
if exists("w:netrw_prvdir") |let s:prvdir = w:netrw_prvdir |endif
if exists("w:netrw_treedict") |let s:treedict = w:netrw_treedict |endif
if exists("w:netrw_treetop") |let s:treetop = w:netrw_treetop |endif
if exists("w:netrw_winnr") |let s:winnr = w:netrw_winnr |endif
" call Dret("s:SaveWinVars")
endfun

```

```

" -----
" s:SetBufWinVars: (used by NetrwBrowse() and LocalBrowseCheck()) {{{2

```

```

" To allow separate windows to have their own activities, such as
" Explore **/pattern, several variables have been made window-oriented.
" However, when the user splits a browser window (ex: ctrl-w s), these
" variables are not inherited by the new window. SetBufWinVars() and
" UseBufWinVars() get around that.
fun! s:SetBufWinVars()
"
call Dfunc("s:SetBufWinVars()")
if exists("w:netrw_liststyle") |let b:netrw_liststyle = w:netrw_liststyle |endif
if exists("w:netrw_bannercnt") |let b:netrw_bannercnt = w:netrw_bannercnt |endif
if exists("w:netrw_method") |let b:netrw_method = w:netrw_method |endif

```

```

if exists("w:netrw_prvdir") |let b:netrw_prvdir = w:netrw_prvdir |endif
if exists("w:netrw_explore_idx") |let b:netrw_explore_idx = w:netrw_explore_idx |endif
if exists("w:netrw_explore_listlen")|let b:netrw_explore_listlen= w:netrw_explore_listlen|endif
if exists("w:netrw_explore_mtchcnt")|let b:netrw_explore_mtchcnt= w:netrw_explore_mtchcnt|endif
if exists("w:netrw_explore_bufnr") |let b:netrw_explore_bufnr = w:netrw_explore_bufnr |endif
if exists("w:netrw_explore_line") |let b:netrw_explore_line = w:netrw_explore_line |endif
if exists("w:netrw_explore_list") |let b:netrw_explore_list =
w:netrw_explore_list |endif
" call Dret("s:SetBufWinVars")
endfun

```

```

" -----
" s:SetRexDir: set directory for :Rexplore {{{2
fun! s:SetRexDir(islocal,dirname)
" call Dfunc("s:SetRexDir(islocal=".a:islocal." dirname<".a:dirname.">")")
" set up Rex and leftmouse-double-click
if a:islocal
exe 'com! Rexplore call s:NetrwRexplore(1,".escape(a:dirname,"\\")."'
if g:netrw_retmap
if !hasmapto("<Plug>NetrwReturn") && maparg("<2-leftmouse>","n") == ""
nmap <unique> <silent> <2-leftmouse> <Plug>NetrwReturn
endif
let dir = escape(a:dirname, s:netrw_map_escape)
exe 'nnoemap <silent> <Plug>NetrwReturn :call <SID>NetrwRexplore(1,".dir.")<cr>'
endif
else
exe 'com! Rexplore call s:NetrwRexplore(0,".escape(a:dirname,"\\")."'
if g:netrw_retmap
if !hasmapto("<Plug>NetrwReturn") && maparg("<2-leftmouse>","n") == ""
nmap <unique> <silent> <2-leftmouse> <Plug>NetrwReturn
endif
let dir = escape(a:dirname, s:netrw_map_escape)
exe 'nnoemap <silent> <Plug>NetrwReturn :call <SID>NetrwRexplore(0,".dir.")<cr>'
endif
endif
" call Dret("s:SetRexDir")
endfun

```

```

" -----
" s:Strlen: this function returns the length of a string, even if its {{{2
" using two-byte etc characters.
" Currently, its only used if g:Align_xstrlen is set to a
" nonzero value. Solution from Nicolai Weibull, vim docs
" (:help strlen()), Tony Mechelynck, and my own invention.
fun! s:Strlen(x)
" call Dfunc("s:Strlen(x<".a:x.">")")
if g:netrw_xstrlen == 1
" number of codepoints (Latin a + combining circumflex is two codepoints)

```

```

" (comment from TM, solution from NW)
let ret= strlen(substitute(a:x,!,',g'))

elseif g:netrw_xstrlen == 2
" number of spacing codepoints (Latin a + combining circumflex is one spacing
" codepoint;
a hard tab is one; wide and narrow CJK are one each; etc.)
" (comment from TM, solution from TM)
let ret=strlen(substitute(a:x,!\Z', 'x', 'g'))

elseif g:netrw_xstrlen == 3
" virtual length (counting, for instance, tabs as anything between 1 and
" 'tabstop', wide CJK as 2 rather than 1, Arabic alif as zero when immediately
" preceded by lam, one otherwise, etc.)
" (comment from TM, solution from me)
let modkeep= &mod
exe "norm! o\<esc>"
call setline(line("."),a:x)
let ret= virtcol("$") - 1
d
let &mod= modkeep

else
" at least give a decent default
ret= strlen(a:x)
endif
" call Dret("s:Strlen ".ret)
return ret
endfun

" -----
" s:TreeListMove: {{{2
fun! s:TreeListMove(dir)
" call Dfunc("s:TreeListMove(dir<"a:dir.">")")
let curline = getline('.')
let prvline = (line(".") > 1)? getline(line(".")-1) : "
let nxtline = (line(".")
< line("$"))? getline(line")+1) : "
let curindent= substitute(curline,^\([ ]*\)\{-}$',\1',")
let indentm1 = substitute(curindent,^\| ',")
" call Decho("prvline <".prvline."> #".line(".")-1)
" call Decho("curline <".curline."> #".line("."))
" call Decho("nxtline <".nxtline."> #".line")+1)
" call Decho("curindent<".curindent.">")
" call Decho("indentm1 <".indentm1.">")

if curline !~ '$'
" call Decho('regfile')

```

```

if a:dir == '[' && prvline != "
    norm! 0
    let nl = search('^.\indentm1.[^\]', 'bWe') " search backwards from regular file
"    call Decho("regfile srch back: ".nl)
elseif a:dir == ']' && nxtline != "
    norm! $
    let nl = search('^.\indentm1.[^\]', 'We') " search forwards from regular file
"    call Decho("regfile srch fwd: ".nl)
endif

elseif a:dir == '[' && prvline != "
    norm! 0
    let curline= line(".")
    let nl = search('^.\curindent.[^\]', 'bWe') " search backwards From
directory, same indentation
"    call Decho("dir srch back ind: ".nl)
    if nl != 0
        if line(".") == curline-1
            let nl= search('^.\indentm1.[^\]', 'bWe') " search backwards from directory, indentation - 1
"    call Decho("dir srch back ind-1: ".nl)
        endif
    endif

elseif a:dir == ']' && nxtline != "
    norm! $
    let curline = line(".")
    let nl = search('^.\curindent.[^\]', 'We') " search forwards from directory, same indentation
"    call Decho("dir srch fwd ind: ".nl)
    if nl != 0
        if line(".") == curline+1
            let nl= search('^.\indentm1.[^\]', 'We') " search forwards from directory, indentation - 1
"    call Decho("dir srch fwd ind-1: ".nl)
        endif
    endif

endif

" call Dret("s:TreeListMove")
endfun

" -----
" s:UpdateBuffersMenu: does emenu Buffers.Refresh (but due to locale, the menu item may not be called that) {{{2
"     The
"     Buffers.Refresh menu calls s:BMSHow(); unfortunately, that means that that function
"     can't be called except via emenu. But due to locale, that menu line may not be called
"     Buffers.Refresh; hence, s:NetrwBMSHow() utilizes a "cheat" to call that function anyway.
fun! s:UpdateBuffersMenu()
" call Dfunc("s:UpdateBuffersMenu()")

```



```

if has("gui") && has("menu") && has("gui_running") && &go =~ 'm'
  try
    silent emenu Buffers.Refresh\ menu
  catch /^Vim\%((\a+)\)\=:E/
    let v:errmsg= ""
    silent call s:NetrwBMSHow()
  endtry
endif
" call Dret("s:UpdateBuffersMenu")
endfun

" -----
" s:UseBufWinVars: (used by NetrwBrowse() and LocalBrowseCheck()) {{{2
"     Matching function to BufferWinVars()
fun! s:UseBufWinVars()
" call Dfunc("s:UseBufWinVars()")
if exists("b:netrw_liststyle") && !exists("w:netrw_liststyle") |let w:netrw_liststyle
    = b:netrw_liststyle |endif
if exists("b:netrw_bannercnt") && !exists("w:netrw_bannercnt") |let w:netrw_bannercnt =
b:netrw_bannercnt |endif
if exists("b:netrw_method") && !exists("w:netrw_method") |let w:netrw_method =
b:netrw_method |endif
if exists("b:netrw_prvdir") && !exists("w:netrw_prvdir") |let w:netrw_prvdir = b:netrw_prvdir
|endif
if exists("b:netrw_explore_idx") && !exists("w:netrw_explore_idx") |let w:netrw_explore_idx =
b:netrw_explore_idx |endif
if exists("b:netrw_explore_listlen") && !exists("w:netrw_explore_listlen")|let w:netrw_explore_listlen =
b:netrw_explore_listlen|endif
if exists("b:netrw_explore_mtchcnt") && !exists("w:netrw_explore_mtchcnt")|let w:netrw_explore_mtchcnt =
b:netrw_explore_mtchcnt|endif
if exists("b:netrw_explore_bufnr") && !exists("w:netrw_explore_bufnr") |let w:netrw_explore_bufnr =
b:netrw_explore_bufnr
|endif
if exists("b:netrw_explore_line") && !exists("w:netrw_explore_line") |let w:netrw_explore_line =
b:netrw_explore_line |endif
if exists("b:netrw_explore_list") && !exists("w:netrw_explore_list") |let w:netrw_explore_list =
b:netrw_explore_list |endif
" call Dret("s:UseBufWinVars")
endfun

" -----
" s:WinPath: {{{2
fun! s:WinPath(path)
" call Dfunc("s:WinPath(path<"a:path.">)")
if !g:netrw_cygwin && (has("win32") || has("win95") || has("win64") || has("win16"))
" remove trailing slash (Win95)
let path = substitute(a:path, "\(\|\/\)$", "", 'g')
" remove escaped spaces

```

```
let path = substitute(path, '/', '\', 'g')
" convert slashes to backslashes
let path = substitute(path, '\', '/', 'g')
else
let path= a:path
endif
" call Dret("s:WinPath <" .path. ">")
return path
endfun
```

```
" -----
"
Settings Restoration: {{{2
let &cpo= s:keepcpo
unlet s:keepcpo

" -----
" Modelines: {{{1
" vim:ts=8 fdm=marker
en_US
20040623 release.
--
```

This dictionary is based on a subset of the original English wordlist created by Kevin Atkinson for Pspell and Aspell and thus is covered by his original LGPL license. The affix file is a heavily modified version of the original english.aff file which was released as part of Geoff Kuenning's Ispell and as such is covered by his BSD license.

Thanks to both authors for there wonderful work.

```
=====
en_AU:
```

This dictionary was based on the en\_GB Myspell dictionary which in turn was initially based on a subset of the original English wordlist created by Kevin Atkinson for Pspell and Aspell and thus is covered by his original LGPL licence.

The credit for this en\_AU dictionary goes to:

Kelvin Eldridge (maintainer)  
Jean Hollis Weber  
David Wilson

- Words incorrect in Australian English removed

- a list from the previously removed words with corrected spelling was added
- a list of major rivers was added
- a list of place names was added
- a list of Australian mammals was added
- a list of Aboriginal/Koori words commonly used was added

A total of 119,267 words are now recognized by the dictionary.

Of course, special thanks go to the editors of the en\_GB dictionary (David Bartlett, Brian Kelk and Andrew Brown) which provided the starting point for this dictionary.

The affix file is currently a duplicate of the en\_AU.aff created completely from scratch by David Bartlett and Andrew Brown, based on the published rules for MySpell and is also provided under the LGPL.

If you find omissions or bugs or have new words to add to the dictionary, please contact the en\_AU maintainer at:

"Kelvin" <audictionary@onlineconnections.com.au>

=====  
en\_CA:

The dictionary file was created using the "final" English and Canadian SCOWL (Spell Checker Oriented Word Lists) wordlists available at Kevin's Word Lists Page (<http://wordlist.sourceforge.net>). Lists with the suffixes 10, 20, 35, 50, 65 and 65 were used. Lists with the suffixes 70, 80 and 95 were excluded. Copyright information for SCOWL and the wordlists used in creating it is reproduced below.

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Alan Beale <biljir@pobox.com> also deserves special credit as he has, in addition to providing the 12Dicts package and being a major contributor to the ENABLE word list, given me an incredible amount of feedback and created a number of special lists (those found in the Supplement) in order to help improve the overall quality of SCOWL.

The 10 level includes the 1000 most common English words (according to the Moby (TM) Words II [MWords] package), a subset of the 1000 most common words on the Internet (again, according to Moby Words II), and frequently class 16 from Brian Kelk's "UK English Wordlist with Frequency Classification".

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The "UK English Wordlist With Frequency Classification" is also in the Public Domain:

Date: Sat, 08 Jul 2000 20:27:21 +0100  
From: Brian Kelk <Brian.Kelk@cl.cam.ac.uk>

> I was wondering what the copyright status of your "UK English  
> Wordlist With Frequency Classification" word list as it seems to  
> be lacking any copyright notice.

There were many many sources in total, but any text marked  
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source. An earlier version  
of the list resided in a filespace called  
PUBLIC on the University mainframe, because it was considered public  
domain.

Date: Tue, 11 Jul 2000 19:31:34 +0100

> So are you saying your word list is also in the public domain?

That is the intention.

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The 35 level includes frequency classes 2-6 and words appearing in at  
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The 50 level includes Brian's frequency class 1, words words appearing in at least 5 of 12 of the dictionaries as indicated in the 12Dicts package, and uppercase words in at least 4 of the previous 12 dictionaries. A decent number of proper names is also included: The top 1000 male, female, and Last names from the 1990 Census report; a list of names sent to me by Alan Beale; and a few names that I added myself. Finally a small list of abbreviations not commonly found in other word lists is included.

The name files from the Census report is a government document which I don't think can be copyrighted.

The name list from Alan Beale is also derived from the linux words list, which is derived from the DEC list. He also added a bunch of miscellaneous names to the list, which he released to the Public Domain.

The DEC Word list doesn't have a formal name. It is labeled as "FILE: english.words; VERSION: DEC-SRC-92-04-05" and was put together by Jorge Stolfi <stolfi@src.dec.com> DEC Systems Research Center. The DEC Word list has the following copyright statement:

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The 60 level includes Brian's frequency class 0 and all words appearing in at least 2 of the 12 dictionaries as indicated by the 12Dicts package. A large number of names are also included: The 4,946 female names and 3,897 male names from the MWords package and the files "computer.names", "misc.names", and "org.names" from the DEC package.

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The 80 level includes the ENABLE word list, all the lists in the ENABLE supplement package (except for ABLE), the "UK Advanced Cryptics Dictionary" (UKACD), the list of signature words in from YAWL package, and the 10,196 places list from the MWords package.

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The 95 level includes the 354,984 single words and 256,772 compound words from the MWords package, ABLE.LST from the ENABLE Supplement, and some additional words found in my part-of-speech database that were not found anywhere else.

Accent information was taken from UKACD.

My VARCON package was used to create the American, British, and Canadian word list.

Since the original word lists used used in the VARCON package came from the Ispell distribution they are under the Ispell copyright.

The variant word lists were created from a list of variants found in the 12dicts supplement package as well as a list of variants I created myself.

=====  
en\_GB:

This dictionary was initially based on a subset of the

original English wordlist created by Kevin Atkinson for Pspell and Aspell and thus is covered by his original LGPL licence.

It has been extensively updated by David Bartlett, Brian Kelk and Andrew Brown:

- numerous Americanism have been removed
- numerous American spellings have been corrected
- missing words have been added
- many errors have been corrected
- compound hyphenated words have been added where appropriate

Valuable inputs to this process were received from many other people - far too numerous to name. Serious thanks to you all for your greatly appreciated help.

This word list is intended to be a good representation of current modern British English and thus it should be a good basis for Commonwealth English in most countries of the world outside North America.

The affix file has been created completely from scratch by David Bartlett and Andrew Brown, based on the published rules for MySpell and is also provided under the LGPL.

In creating the affix rules an attempt has been made to reproduce the most general rules for English word formation, rather than merely use it as a means to compress the size of the dictionary. It is hoped that this will facilitate future localisation to other variants of English.

Please let David Bartlett <dwb@openoffice.org> know of any errors that you find.

The current release is R 1.18, 11/04/05  
=====

en\_NZ:

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- 

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NZ English Dictionary v0.9 beta - Build 06SEP03

~~~~~  
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for a final version, after a little while (no hurry).

This dictionary is based on the en\_GB Myspell dictionary which in turn was initially based on a subset of the original

English wordlist created by Kevin Atkinson for Pspell and Aspell and thus is covered by his original LGPL licence.

#### Introduction

~~~~~  
en\_NZ.dic has been altered to include New Zealand places, including major cities and towns, and major suburbs. It also contains NZ words, organisations and expressions.

en\_NZ.aff has had a few REPlace strings added, but is basically unchanged.

#### Acknowledgements

~~~~~  
Thanks must go to the original creators of the British dictionary, David Bartlett, Brian Kelk and Andrew Brown.

I wouldn't have started this without seeing the Australian dictionary, thanks Kelvin Eldridge, Jean Hollis Weber and David Wilson.

And thank you to all who've contributed to OpenOffice.org.

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#### Issues

~~~~~  
Many of the proper nouns already in the dictionary do not have

an affix for 's.

All

my new words start after the z's of the original dictionary.

Contact

~~~~~

Contact Tristan Burtenshaw (hooty@slingshot.co.nz) with any words, places or other suggestions for the dictionary.

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Version 2.1, February 1999

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If there has been no negotiation

then this license, or a later version, also applies to your changes.

The current maintainer is Bram Moolenaar <Bram@vim.org>. If this changes it will be announced in appropriate places (most likely vim.sf.net, www.vim.org and/or comp.editors). When it is completely impossible to contact the maintainer, the obligation to send him your changes ceases. Once the maintainer has confirmed that he has received your changes they will not have to be sent again.

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- You keep the changes for at least three years after last distributing the corresponding modified Vim. When the maintainer or someone who you distributed the modified Vim to asks you (in any way) for the changes within this period, you must make them available to him.
- You clearly describe in the distribution how to contact you. This contact information must

remain valid for at least three years

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If the number of changes is small (e.g., a modified Makefile) e-mailing a context diff will do. The e-mail address to be used is

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Note:

- If you are happy with Vim, please express that by reading the rest of this file and consider helping needy children in Uganda.

- If you want to support further Vim development consider becoming a [sponsor]. The money goes to Uganda anyway.

- According to Richard Stallman the Vim license is GNU GPL compatible. A few minor changes have been made since he checked it, but that should not make a difference.

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=====  
Kibaale Children's Centre \*kcc\* \*Kibaale\* \*charity\*

Kibaale Children's Centre (KCC) is located in Kibaale, a small town in the south of Uganda, near Tanzania, in East Africa. The area is known as Rakai District. The population is mostly farmers. Although people are poor, there is enough food. But this district is suffering from AIDS more than any other part

of the world. Some say that it started there. Estimations are that 10 to 30% of the Ugandans are infected with HIV. Because parents die, there are many orphans. In this district about 60,000 children have lost one or both parents, out of a population of 350,000. And this is still continuing.

The children need a lot of help. The KCC is working hard to provide the needy with food, medical care and education. Food and medical care to keep them healthy now, and education so that they can take care of themselves in the future. KCC works on a Christian base, but help is given to children of any religion.

The key to solving the problems in this area is education. This has been neglected in the past years with president Idi Amin and the following civil wars. Now that the government is stable again, the children and parents have to learn how to take care of themselves and how to avoid infections. There is also help for people who are ill and hungry, but the primary goal is to prevent people from getting ill and to teach them how to grow healthy food.

Most of the orphans are living in an extended family. An uncle or older sister is taking care of them. Because these families are big and the income (if any) is low, a child is lucky if it gets healthy food. Clothes, medical care and schooling is beyond its reach. To help these needy children, a sponsorship program was put into place. A child can be financially adopted. For a few dollars a month KCC sees to it that the child gets indispensable items, is healthy, goes to school and KCC takes care of anything else that needs to be done for the child and the family that supports it.

Besides helping the child directly, the environment where the child grows up needs to be improved. KCC helps schools to improve their teaching methods. There is a demonstration school at the centre and teacher trainings are given. Health workers are being trained, hygiene education is carried out and households

are stimulated to build a proper latrine. I helped setting up a production site for cement slabs. These are used to build a good latrine. They are sold below cost price.

There is a small clinic at the project, which provides children and their family with medical help. When needed, transport to a hospital is offered. Immunization programs are carried out and help is provided when an epidemic is breaking out (measles and cholera have been a problem).

\*donate\*

Summer 1994 to summer 1995 I spent a whole year at the centre, working as a volunteer. I have helped to expand the centre and worked in the area of water and sanitation. I learned that the help that the KCC provides really helps. When I came back to Holland, I wanted to continue supporting KCC. To do this I'm raising funds and organizing the sponsorship program. Please consider one of these possibilities:

1. Sponsor a child in primary school: 17 euro a month (or more).
2. Sponsor a child  
in secondary school: 25 euro a month (or more).
3. Sponsor the clinic: Any amount a month or quarter
4. A one-time donation

Compared with other organizations that do child sponsorship the amounts are very low. This is because the money goes directly to the centre. Less than 5% is used for administration. This is possible because this is a small organization that works with volunteers. If you would like to sponsor a child, you should have the intention to do this for at least one year.

How do you know that the money will be spent right? First of all you have my personal guarantee as the author of Vim. I trust the people that are working at the centre, I know them personally. Further more, the centre is co-sponsored and inspected by World Vision, Save the Children Fund and International Child Care Fund. The centre is visited about once a year to check the progress (at our own cost). I have visited the centre myself in 1996, 1998, 2000, 2001 and 2003. The visit reports are on the ICCF web site.

If you have any further questions, send me e-mail: <Bram@vim.org>.

The address of the centre is:

Kibaale Children's Centre  
p.o. box 1658  
Masaka, Uganda, East Africa

Sending money: \*iccf-donations\*

Check the ICCF web site for the latest information! See [iccf] for the URL.

USA: The methods mentioned below can be used.

Sending a check to the Nehemiah Group Outreach Society (NGOS) is no longer possible, unfortunately. We are looking for another way to get you an IRS tax receipt.

For sponsoring a child contact KCF in Canada (see below). US checks can be sent to them to lower banking costs.

Canada: Contact Kibaale Children's Fund (KCF) in Surrey, Canada. They take care of the Canadian sponsors for the children in Kibaale. KCF forwards 100% of the money to the project in Uganda. You can send them a one time donation directly. Please send me a note so that I know what has been donated because

of Vim. Ask KCF for information about sponsorship.

Kibaale Children's Fund c/o Pacific Academy

10238-168 Street

Surrey, B.C. V4N 1Z4

Canada

Phone: 604-581-5353

If you make a donation to Kibaale Children's Fund (KCF) you will receive a tax receipt which can be submitted with your tax return.

Holland: Transfer to the account of "Stichting ICCF Holland" in Venlo.

This will allow for tax deduction if you live in Holland.

Postbank, nr. 4548774

Germany: It is possible to make donations that allow for a tax return.

Check the ICCF web site for the latest information:

<http://iccf-holland.org/germany.html>

World: Use a postal money order. That should be possible from any country, mostly from the post office. Use this name (which is in my passport): "Abraham Moolenaar". Use Euro for the currency if possible.

Europe: Use a bank transfer if possible. Your bank should have a form that you can use for this. See "Others"

below for the swift

code and IBAN number.

Any other method should work. Ask for information about sponsorship.

Credit Card: You can use PayPal to send money with a Credit card. This is the most widely used Internet based payment system. It's really simple to use. Use this link to find more info:

[https://www.paypal.com/en\\_US/mrb/pal=XAC62PML3GF8Q](https://www.paypal.com/en_US/mrb/pal=XAC62PML3GF8Q)

The e-mail address for sending the money to is:

Bram@iccf-holland.org

For amounts above 400 Euro (\$500) sending a check is preferred.

Others: Transfer to one of these accounts if possible:

Postbank, account 4548774

Swift code: INGB NL 2A

IBAN: NL47 PSTB 0004 5487 74

under the name "stichting ICCF Holland", Venlo

If that doesn't work:

Rabobank Venlo, account 3765.05.117

Swift code: RABO NL 2U

under the name "Bram Moolenaar", Venlo

Otherwise, send a check in euro or US dollars to the address below. Minimal amount: \$70 (my bank does not accept smaller

amounts for foreign check, sorry)

Address to send checks to:

stichting ICCF Holland

Bram Moolenaar

Finsterruetihof 1

8134 Adliswil

Switzerland

This address is expected to be valid for a long time.

vim:tw=78:ts=8:ft=help:norl:

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Version 2, June 1991

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Also add information on how to contact you by electronic and paper mail.

If

the program is interactive, make it output a short notice like this when it starts in an interactive mode:

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<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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=====  
Visual Studio - Vim Integration  
=====

Copyright (C) 1997 Heiko Erhardt

VisVim is a Visual Studio Add-In that allows Vim to be integrated as the default text editor. It will be used instead of the Visual Studio built-in editor when you double-click on a file or press F4 after compiling (it will go to the proper line in the Vim buffer). The file can be loaded exclusively by Vim or additionally to the builtin Visual Studio editor (this option can be set in the VisVim configuration dialog inside Visual Studio). Vim does not replace the Visual Studio editor, it still runs in its own window.

VisVim is based upon VisEmacs by Christopher Payne  
(Copyright (C) Christopher Payne 1997).

Author: Heiko Erhardt <Heiko.Erhardt@munich.netsurf.de>  
Based upon: VisEmacs by Christopher Payne <payneca@sagian.com>  
Version: 1.0  
Created: 23 Oct 1997  
Date: 23 Oct 1997

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#### Requirements

-----

VisVim works with the \*OLE-enabled\* version of Vim version 5.0 and higher only!!! You must download the extra archive containing the OLE-enabled executable from your Vim download site. When building your own Vim executable, use the if\_ole\_vc.mak makefile (Vim 5.1 and higher).

VisVim needs DevStudio 5.0 or higher. It does not work with DevStudio 4.2.

## Installation

-----

- 1) Close running instances of DevStudio.
- 2) Copy VisVim.dll into a convenient directory like \vim, \vim\lib, or \vim\addin
- 3) Register the DLL using regsvr32.exe ...  
(Skip this on Windows 95/98)  
Example:  
> cd \vim\addin  
> regsvr32 VisVim.dll  
On NT, you should do this from an administrator account.  
Before installing a new version of VisVim you should unregister the old one using  
> regsvr32 -unregister VisVim.dll  
The batch files register.bat and unregister.bat can do that for you.
- 3a) If you didn't do this yet: Register the OLE gvim:  
> gvim -register
- 4) Start Visual Studio and go to:  
Tools  
Customize...  
Add-Ins and Macro Files
- 5) Click on Browse, and point Visual Studio to your VisVim.dll file.
- 6) Click the checkbox to indicate that you want to use the Add-In, and Close the Customize dialog box.
- 7) You should notice the VisVim Toolbar with the Vim Icon.  
Click the first item of the toolbar to get to the options dialog.

## Compiling VisVim

-----

### Two Options:

- 1) Load the VisVim.mak file as a Workspace in Visual Studio and compile
- 2) Use the MSVC command line  
compiler:  
vcvars32

nmake -f VisVim.mak

## Using VisVim

-----

The VisVim DLL exposes several functions to the user. These functions are accessible using the toolbar or by assigning hotkeys to them (see below).

The following functions are visible on the toolbar (from left to right):

### 1. VisVim settings dialog

The settings you adjust here will be saved in the registry and will be reloaded on program startup.

### 2. Enable Vim

Enables Vim as Visual Studio editor. Control will be switched to Vim when:

- Clicking a file in the file view
- Clicking a compiler error message line
- Using the 'File-Open' Dialog
- Showing the current source line when encountering a debugger breakpoint.
- Using File-New

### 3. Disable Vim

The internal Visual Studio editor will be used to edit files.

### 4. Toggle enable state

Toggles the enable state of VisVim. Use this function if you want to have one button only to activate/deactivate Vim.

### 5. Load

current file in Vim

Loads the file shown in the internal editor into Vim. Use this function if you want the internal editor to stay active and just edit one file in Vim.

This command works always whether Vim is enabled as default editor or not.

You cannot use DevStudio's debugger commands from inside Vim, so you should disable Vim before running the debugger.

You can customize the Vim toolbar itself or add the Vim buttons to other toolbars.

To have fast access to the VisVim options dialog I suggest to create keyboard shortcuts:

#### 1) Choose

Tools

Customize...

Keyboard

#### 2) Choose Category: AddIns and Commands: VisVim.

3) Choose 'Main' as editor, enter each hotkey and press the Assign button.

I suggest:

VisVimDialogCmd Alt+Shift+V

VisVimEnableCmd Alt+Shift+E

VisVimDisableCmd Alt+Shift+D

VisVimToggleCmd Alt+Shift+T

VisVimLoadCmd Alt+Shift+G

4) Close the dialog

Now a typical debugging example:

Using

"Alt+Shift+d" you turn off Vim before starting the debugger.

After hitting the breakpoint you single step through your application using the internal source code editor and examine variables.

When you stumble across the line with the null pointer assignment, just press "Alt+Shift+g", and correct the error in Vim.

Save the file, press Alt+Tab to return to DevStudio and press F7 to compile.

That's it.

Troubleshooting

-----

1. When opening a file in DevStudio the file is opened in the DevStudio editor and immediately vanishes. No Vim shows up.

Cause: Probably you don't have the OLE-enabled Vim or you didn't register it.

Explanation: VisVim is notified by DevStudio if an 'open document' event occurs. It then closes the document in the internal editor and tries to start Vim. If Vim isn't properly OLE-registered, this won't work.

Workaround: Download and install the OLE-enable version of Vim and execute "gvim -register".

2.

Sometimes when clicking on a file, the file won't be opened by Vim but instead the Visual Studio editor comes up.

Cause: The file was already loaded by the DevStudio editor.

Explanation: VisVim works by hooks exposed by Visual Studio.

Most of the functionality works from the OpenDocument hook.

If a document is already loaded in the Visual Studio editor, no 'open document' event will be generated when clicking the file in the file list.

Workaround: Close the document in Visual Studio first.

3. I can't get VisVim to work. Either the Vim toolbar does not appear at all or weird crashes happen.

Cause: The Visual Studio installation is messed up.

Explanation: I can't give you one. Ask M\$.

Workaround: Reinstall DevStudio (I know this is brute, but in some cases it helped). There was one case where the service pack 1 had to be installed, too.

4. If an instance of Vim is already running, VisVim will use that instance and not start a new one.

Cause: This is proper OLE behaviour

Explanation: Some call it a bug, some a feature. That's just the way OLE works.

5. When being in insert mode in Vim and selecting a file in Visual Studio, the Vim command :e ... is inserted as text instead of being executed.

Cause: You probably know...

Explanation: The Vim OLE automation interface interprets the VisVim commands as if they were typed in by the user.

So if you're in insert mode Vim considers it to be text.

I decided against sending an ESC before the command because it may cause a beep or at least a screen flash when noeb is set.

Workaround: Get used to press ESC before switching to DevStudio.

6. I'm tired of VisVim but I can't get rid of it. I can't delete it in Tools-Customize-Add-Ins.

Cause: You can't delete an item you once added to the add-ins list box.

Explanation: M\$ just didn't put a 'delete' button in the dialog box.

Unfortunately there is no DEL key accellerator as well...

Workaround: You can't kill it, but you can knock it out:

1. Uncheck the check box in front of 'Vim Developer Studio Add-in'.
2. Close Visual Studio.
3. Delete VisVim.dll or move it somewhere it can't be found.
4. Run Visual Studio.
5. Tools -> Cursomize ->Add-ins and Macro-Files.
6. A message appears:

"../VisVim.dll" "This add-in no longer exists. It will no longer be displayed."

That's it!

Change history

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1.0a to 1.0

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- All settings in the VisVim dialog are remembered between DevStudio sessions by keeping them in the registry (HKEY\_CURRENT\_USER\Software\Vim\VisVim).
- Added an option to do a :cd before opening the file (having a file opened by clicking it but finding out to be still in C:\Windows\system when trying to open another file by ":e" can be annoying). Change directory can be done to the source file's directory or it's parent directory.
- Added some explanations to the error message for the CO\_E\_CLASSSTRING error ("Use OLE Vim and make sure to register...").

#### 1.0 to 1.1a

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- The VisVim toolbar button now shows the new Vim icon instead of the old one.
- Made some changes to the documentation, added the troubleshooting chapter and ToDo list.
- File-New-\* now invokes Vim instead of the builtin editor if enabled.

#### 1.1 to 1.1b

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- Extended the VisVim toolbar to have multiple buttons instead of one.
- Moved the enable/disable commands from the settings dialog to the toolbar.
- Added the toggle enable/disable command
- Added the 'load current file' command.

#### 1.1b to 1.2

-----

No new features, just some fine tuning:

- Changed the GUID of the VisVim OLE interface to avoid conflicts with a version of VisEmacs or VisVile on the same computer (Guy Gascoigne)
- Fixed a bug caused by a bug in the Developer Studio add-in code generator (Clark Morgan)
- Fixed a memory leak (Clark Morgan)
- Added an option in the VisVim dialog to prepend ESC before the first command that is sent to Vim. This will avoid inserting the command as text when Vim is still in insert mode.
- An :update command is sent to Vim before any other command to update the current file if it is modified, or else the following :cd or :e command will fail.

#### 1.2 to 1.3a

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- Fixed a bug caused by a missing EnableModeless() function call in VimLoad().

This seems to reduce VisVim crashing DevStudio on some systems (it occasionally still seems to happen, but it's more stable now).

(Vince Negri)

- Added support for the new CTRL-\ CTRL-N command of Vim 5.4a.

This prevents Vim from beeping when a VisVim command is executed and Vim is not in insert mode.

#### ToDo List

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P1 is highest priority, P10 lowest

P9 Switching to DevStudio using ALT-TAB may get annoying. Would be nice to have the option to map `ActivateApplication("Visual Studio")` in Vim.

Vim DLLs would solve that problem.

P8 Execute `:tag` command in Vim for word under cursor in DevStudio

P7 Controlling the Visual Studio Debugger from inside Vim

See message above. Also a 'Debug' highlight group and a command to highlight a certain line would be necessary.

P6 Provide an option to open the current file in VisVim in Visual Studio editor

Same as above message. A kind of two way OLE automation would have to be established between VisVim and Vim. Also a 'Debug' highlight group and a command to highlight a certain line would be necessary.

#### Known Problems

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- Occasional memory corruptions in DevStudio may appear on some systems.

Reinstalling DevStudio helped in some cases.

The cause of these crashes is unclear; there is no way to debug this.

Recompiling VisVim with DevStudio SP3 didn't help.

I assume it's a problem deep inside the DevStudio add-in OLE interfaces.

This will hopefully be fixed with DevStudio 6.

Have fun!

Heiko Erhardt

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# 1.83 libice 1.0.6-1.el6

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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## 1.90 libnotify 0.5.0-1.el6

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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## 1.91 ncurses 5.7-3.20090208.el6

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#
# Originally written by Per Bothner <per@bothner.com>.
# Please send patches to <config-patches@gnu.org>. Submit a context
# diff and a properly formatted ChangeLog entry.
#
# This script attempts to guess a canonical system name similar to
# config.sub. If it succeeds, it prints the system name on stdout, and
# exits with 0. Otherwise, it exits with 1.
#
# The plan is that this can be called by configure scripts if you
# don't specify an explicit build system type.

```

# 1.92 libglade 2.6.4-3.1.el6

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Version 2, June 1991

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Mark Lindner - Lead developer & maintainer.

Daniel Marjamdki - Enhancements & bugfixes.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

```
<one line to give the program's name and a brief idea of what it does.>  
Copyright (C) <year> <name of author>
```

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```
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Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.  
This is free software, and you are welcome to redistribute it  
under certain conditions; type `show c' for details.
```

The hypothetical commands

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'Gnomovision' (which makes passes at compilers) written by James Hacker.

<signature of Ty Coon>, 1 April 1989  
Ty Coon, President of Vice

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## 1.101 attr 2.4.44-7.el6

### 1.101.1 Available under license :

This package was debianized by Nathan Scott nathans@debian.org on  
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<signature of Ty Coon>, 1 April 1989

Ty Coon, President of Vice

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## 1.102 libthai 0.1.12-3.el6

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Version 2.1, February 1999

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## 1.104 slang 2.2.1-1.e16

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For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

^L

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A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

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copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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- a) The modified work must itself be a software library.
- b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
- c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

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Once this change is made in a given copy, it is irreversible for

that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may

distribute

the object code for the work under the terms of Section 6.

Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

^L

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2)

will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy

from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

^L

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

a) Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

b) Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.

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To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

<one line to give the library's name and a brief idea of what it does.>

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Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990  
Ty Coon, President of Vice

That's all there is to it!  
This package was debianized by Jean Pierre LeJacq  
<jplejacq@quoininc.com> on Wed, 25 Feb 1998. Martin Pitt  
<martin@piware.de> was the package's maintainer up to version  
2.7.19-1. The current maintainer is Jan Dittberner  
<jandd@debian.org>.

It was downloaded from <http://sourceforge.net/projects/cracklib>

Copyright (c) 1993 Alec Muffett <alecm@crypto.dircon.co.uk>,  
Copyright (c) 2005-2009 Nathan Neulinger <nneul@umr.edu>,  
Copyright (c) 2008-2009 Jan Dittberner <jan@dittberner.info>

Modifications: Added cronjob, configuration file, and man pages.

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Copyright information:

CrackLib was originally licensed with a variant of the Artistic license. In the interests of wider acceptance and more modern licensing, it was switched with the original author's blessing to GPL v2.

This approval was carried out in email discussions in 2005, and has been reconfirmed as of 2007-10-01 with the following email from Alec Muffett. Cracklib's license was changed from the GPL to the LGPL after consensus of all previous developers in October 2008, effective with release 2.8.15 released on 2009-11-19. See the email discussion below for both license changes.

-----

-----  
EFFECTIVE

OCT 2008, LICENSE IS BEING CHANGED TO LGPL-2.1 (though not reflected in released code until Nov 2009 - slow release cycle...)

-----

Discussion thread from mailing list archive, with approval from everyone actively involved or holding original licensing rights included.

[Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2007-10-02 01:16

Attachments: Message as HTML

looks like 2.8.11 is out and marked as "GPL-2" ... releasing libraries unde=  
r=20

GPL-2 is not desirable at all ... this is why the LGPL-2.1 exists  
=2Dmike

Re: [Cracklib-devel] cracklib license

From: Neulinger, Nathan <nneul@um...> - 2007-10-02 01:18

I understand that, and you're welcome to bring it up with Alec directly and see if he wants to relicense his code as LGPL... but at this point, it was enough to just get it consistent and documented as to what it was released under. This wasn't actually a license change, just a clarification of the licensing that was already in place.=20

-- Nathan

=20

-----  
Nathan Neulinger EMail: nneul@um...  
University of Missouri - Rolla Phone: (573) 341-6679  
UMR Information Technology Fax: (573) 341-4216

> -----Original Message-----

> From: cracklib-devel-bounces@li...  
> [mailto:cracklib-devel-bounces@li...] On Behalf Of  
> Mike Frysinger  
> Sent: Monday, October 01, 2007 8:15 PM  
> To: cracklib-devel@li...  
> Subject: [Cracklib-devel] cracklib license

>=20

> looks like 2.8.11 is out and marked as "GPL-2" ... releasing  
> libraries under  
> GPL-2 is not desirable at all ... this is why the LGPL-2.1 exists  
> -mike

Re: [Cracklib-devel] cracklib license  
From: Mike Frysinger <vapier@ge...> - 2007-10-02 01:33

Attachments: Message as HTML

On Monday 01 October 2007, Neulinger, Nathan wrote:

> I understand that, and you're welcome to bring it up with Alec directly  
> and see if he wants to relicense his code as LGPL... but at this point,  
> it was enough to just get it consistent and documented as to what it was  
> released under. This wasn't actually a license change, just a  
> clarification of the licensing that was already in place.

the original license (before moving to sourceforge -- aka, 2.7) was not=20  
GPL-2 ... it was a modified artistic license ... i didnt notice the license=  
=20

change until it was mentioned in the latest notes.

unlike the old license, GPL-2 prevents people from using cracklib unless th=  
eir=20

applications are also GPL-2 which imo is just wrong. it isnt the place of =  
a=20

library to dictact to application writes what license they should be using.=  
=20

thus LGPL-2.1 enters to fill this void.

=2Dmike

Re: [Cracklib-devel] cracklib license

From: Neulinger, Nathan <nneul@um...> - 2007-10-02 01:46

Seems like the ideal thing here would be for you and the other distro maintainers to get together with Alec in a conversation and come to a decision as to what licensing scheme y'all want. I haven't really done much other than cleaning up the packaging and patches and a small bit of additional code, so whatever licensing y'all come up with is fine by me.

-- Nathan

=20

-----  
Nathan Neulinger EMail: nneul@um...

University of Missouri - Rolla Phone: (573) 341-6679

UMR Information Technology Fax: (573) 341-4216

> -----Original Message-----

> From: cracklib-devel-bounces@li...

> [mailto:cracklib-devel-bounces@li...] On Behalf Of

> Mike Frysinger

> Sent: Monday, October 01, 2007 8:33 PM

> To: Neulinger, Nathan

>

Cc: cracklib-devel@li...; Alec Muffett

> Subject: Re: [Cracklib-devel] cracklib license

>=20

> On Monday 01 October 2007, Neulinger, Nathan wrote:

> > I understand that, and you're welcome to bring it up with Alec

> directly

> > and see if he wants to relicense his code as LGPL... but at this

> point,

> > it was enough to just get it consistent and documented as to what

> it was

> > released under. This wasn't actually a license change, just a

> > clarification of the licensing that was already in place.

>=20

> the original license (before moving to sourceforge -- aka, 2.7) was

> not

> GPL-2 ... it was a modified artistic license ... i didnt notice the

> license

> change until it was mentioned in the latest notes.

>=20

> unlike the old license, GPL-2 prevents people from using cracklib

> unless their

> applications are also GPL-2 which imo is just wrong. it isnt

the

> place of a

> library to dictact to application writes what license they should

> be using.  
> thus LGPL-2.1 enters to fill this void.  
> -mike

Re: [Cracklib-devel] cracklib license

From: Alec Muffett <alecm@cr...> - 2007-10-02 08:57

> Seems like the ideal thing here would be for you and the other distro  
> maintainers to get together with Alec in a conversation and come to a  
> decision as to what licensing scheme y'all want. I haven't really done  
> much other than cleaning up the packaging and patches and a small  
> bit of  
> additional code, so whatever licensing y'all come up with is fine  
> by me.

I am sympathetic. Guys, what do you reckon?

What I am hearing so far is that LGPL makes sense, since it can be  
linked with any code, not just GPL...

-a

Re: [Cracklib-devel] cracklib license

From: Devin Reade <gdr@gn...> - 2007-10-02 15:04

I would

like to see it under LGPL as well. I think it is in everyone's  
best interests to have as secure systems as possible, and I think tainting  
it via GPL will just make it less likely that the library gets used, and  
will not usually cause companies/developers to GPL the dependent code  
(where it is not already GPL).

I like GPL, I use it when I can, but I don't think that it's the correct  
license in this situation.

Devin

--

If it's sinful, it's more fun.

Re: [Cracklib-devel] cracklib license

From: Nalin Dahyabhai <nalin@re...> - 2008-01-28 16:32

On Tue, Oct 02, 2007 at 09:57:31AM +0100, Alec Muffett wrote:

>> Seems like the ideal thing here would be for you and the other distro  
>> maintainers to get together with Alec in a conversation and come to a  
>> decision as to what licensing scheme y'all want. I haven't really done  
>> much other than cleaning up the packaging and patches



and a small

>> bit of  
>> additional code, so whatever licensing y'all come up with is fine  
>> by me.  
>  
> I am sympathetic. Guys, what do you reckon?  
>  
> What I am hearing so far is that LGPL makes sense, since it can be  
> linked with any code, not just GPL...

My apologies for not chiming in in anything resembling a reasonable timeframe.

I'd also suggest the LGPL, for the reason you noted above. Alternately, GPLv2 with the option of using the library under a later version of the GPL would permit applications which were released under version 3 of the GPL to use the library, too, which would be sufficient for the packages which are included in Fedora. FWIW, I'd personally lean toward LGPL.

In any case, I thank you both for working on sorting this out.

Cheers,

Nalin

Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2008-10-05 21:27

Attachments: Message as HTML

On Monday 28 January 2008, Nalin Dahyabhai wrote:

> On Tue, Oct 02, 2007 at 09:57:31AM +0100, Alec Muffett wrote:  
>>> Seems like the ideal thing here would be for you and the other distro  
>>> maintainers to get together with Alec in a conversation and come to a  
>>> decision as to what licensing scheme y'all want. I haven't really done  
>>> much other than cleaning up the packaging and patches and a small  
>>> bit of  
>>> additional code, so whatever licensing y'all come up with is fine  
>>> by me.  
>>  
>> I am sympathetic. Guys, what do you reckon?  
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> which are included in Fedora. FWIW, I'd personally lean toward LGPL.  
>  
> In any case, I thank you both for working on sorting this out.

looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we make  
the change now ?

-mike

Re: [Cracklib-devel] cracklib license

From: Alec Muffett <alecm@cr...> - 2008-10-05 23:18

>> In any case, I thank you both for working on sorting this out.

>

> looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we make  
> the change now ?

yes. go for it. thanks++

-a

Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2008-10-25 22:34

Attachments: Message

as HTML

On Sunday 05 October 2008, Alec Muffett wrote:

> >> In any case, I thank you both for working on sorting this out.

> >

> > looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we  
> > make the change now ?

>

> yes. go for it. thanks++

Nathan Neulinger is the only one who can actually make said change ...

-mike

-----  
BELOW IS ORIGINAL LICENSING DISCUSSION RE CHANGING TO GPL from Artistic.  
-----

CrackLib was originally licensed with a variant of the Artistic license. In the

interests of wider acceptance and more modern licensing, it was switched with the original author's blessing to GPL v2.

This approval was carried out in email discussions in 2005, and has been reconfirmed as of 2007-10-01 with the following email from Alec Muffett.

The below email references nneul@umr.edu address, as that is the address that was used at the time. For any future emails regarding this, please use  
nneul@neulinger.org.

-----

From alecm@crypticide.com Mon Oct 1 12:26:03 2007  
Received: from umr-exproto2.cc.umr.edu ([131.151.0.192]) by UMR-CMAIL1.umr.edu with Microsoft SMTPSVC(6.0.3790.3959);  
Mon, 1 Oct 2007 12:26:03 -0500  
Received: from scansrv2.srv.mst.edu ([131.151.1.114]) by umr-exproto2.cc.umr.edu with Microsoft SMTPSVC(6.0.3790.3959);  
Mon, 1 Oct 2007 12:26:02 -0500  
Received: (qmail 8022 invoked from network); 1 Oct 2007 16:59:55 -0000  
Received: from smtp1.srv.mst.edu (131.151.1.43)  
by scanin-ipvs.cc.umr.edu with SMTP; 1 Oct 2007 16:59:55 -0000  
Received: from spunkymail-mx8.g.dreamhost.com (mx1.spunky.mail.dreamhost.com [208.97.132.47])  
by smtp1.srv.mst.edu (8.13.1/8.13.1) with ESMTP id 191Gxtp020623  
for <nneul@umr.edu>; Mon, 1 Oct 2007 11:59:55 -0500  
Received: from rutherford.zen.co.uk (rutherford.zen.co.uk [212.23.3.142])  
by spunkymail-mx8.g.dreamhost.com (Postfix) with ESMTP id 2C7734D311  
for <nneul@neulinger.org>; Mon, 1 Oct  
2007 09:59:50 -0700 (PDT)  
Received: from [82.68.43.14] (helo=[192.168.1.3])  
by rutherford.zen.co.uk with esmtp (Exim 4.50)  
id 1IcOcX-0004Qt-6L  
for nneul@neulinger.org; Mon, 01 Oct 2007 16:59:49 +0000  
Mime-Version: 1.0 (Apple Message framework v752.2)  
In-Reply-To: <1b1b3fd80710010908k11dac0afp1f2dd471059ff9a4@mail.gmail.com>  
References: <1190922867.3457.147.camel@localhost.localdomain>  
<EC90713277D2BE41B7110CCD74E235CEF44F38@UMR-CMAIL1.umr.edu>  
<1b1b3fd80710010908k11dac0afp1f2dd471059ff9a4@mail.gmail.com>  
Content-Type: text/plain; charset=US-ASCII; delsp=yes; format=flowed  
Message-Id: <117A1264-F6DC-4E25-B0DD-56FBFE6E9F@crypticide.com>  
Content-Transfer-Encoding: 7bit  
From: Alec Muffett <alecm@crypticide.com>  
Subject: Re: cracklib license  
Date: Mon, 1 Oct 2007 17:59:46 +0100  
To: Nathan Neulinger <nneul@neulinger.org>

X-Mailer: Apple Mail (2.752.2)  
X-Originating-Rutherford-IP: [82.68.43.14]  
Return-Path: alecm@crypticide.com  
X-OriginalArrivalTime: 01 Oct 2007 17:26:03.0008 (UTC) FILETIME=[2420C000:01C80450]  
Status:  
RO  
Content-Length: 585  
Lines: 21

>  
> ----- Forwarded message -----  
> From: Neulinger, Nathan <nneul@umr.edu>  
> Date: Sep 27, 2007 2:58 PM  
> Subject: RE: cracklib license  
> To: alecm@crypto.dircon.co.uk  
>  
> Any chance you could write me a self-contained email stating clearly  
> that the license is being changed to GPL, so I could include that  
> email  
> in the repository and clean up the repository/tarballs? I have all the  
> original discussion, but something succinct and self contained  
> would be  
> ideal.

The license for my code in the Cracklib distribution is henceforth GPL.

Happy now? :-)

-a

-----  
EFFECTIVE OCT 2008, LICENSE IS BEING CHANGED TO LGPL-2.1 (though not reflected  
in released code until Nov 2009 - slow release cycle...)  
-----

Discussion thread from mailing list archive, with approval from everyone actively  
involved or holding original licensing rights included.

[Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2007-10-02 01:16

Attachments: Message as HTML

looks like 2.8.11 is out and marked as "GPL-2" ... releasing libraries unde=  
r=20

GPL-2 is not desirable at all ... this is why the LGPL-2.1 exists  
=2Dmike

Re: [Cracklib-devel] cracklib license

From: Neulinger, Nathan <nneul@um...> - 2007-10-02 01:18

I understand that, and you're welcome to bring it up with Alec directly and see if he wants to relicense his code as LGPL... but at this point, it was enough to just get it consistent and documented as to what it was released under. This wasn't actually a license change, just a clarification of the licensing that was already in place.=20

-- Nathan

=20

-----  
Nathan Neulinger EMail: nneul@um...

University of Missouri - Rolla Phone: (573) 341-6679

UMR Information Technology Fax: (573) 341-4216

> -----Original Message-----

> From: cracklib-devel-bounces@li...

> [mailto:cracklib-devel-bounces@li...] On Behalf Of

> Mike Frysinger

> Sent: Monday, October 01, 2007 8:15 PM

> To: cracklib-devel@li...

> Subject: [Cracklib-devel] cracklib license

>=20

> looks like 2.8.11 is out and marked as "GPL-2" ... releasing

> libraries under

> GPL-2 is not desirable at all ... this is why the LGPL-2.1 exists

> -mike

Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2007-10-02 01:33

Attachments: Message as HTML

On Monday 01 October 2007, Neulinger, Nathan

wrote:

> I understand that, and you're welcome to bring it up with Alec directly  
> and see if he wants to relicense his code as LGPL... but at this point,  
> it was enough to just get it consistent and documented as to what it was  
> released under. This wasn't actually a license change, just a  
> clarification of the licensing that was already in place.

the original license (before moving to sourceforge -- aka, 2.7) was not=20  
GPL-2 ... it was a modified artistic license ... i didnt notice the license=  
=20

change until it was mentioned in the latest notes.

unlike the old license, GPL-2 prevents people from using cracklib unless th=

eir=20

applications are also GPL-2 which imo is just wrong. it isnt the place of =

a=20

library to dictact to application writes what license they should be using.=

=20

thus LGPL-2.1 enters to fill this void.

=2Dmike

Re: [Cracklib-devel]

cracklib license

From: Neulinger, Nathan <nneul@um...> - 2007-10-02 01:46

Seems like the ideal thing here would be for you and the other distro maintainers to get together with Alec in a conversation and come to a decision as to what licensing scheme y'all want. I haven't really done much other than cleaning up the packaging and patches and a small bit of additional code, so whatever licensing y'all come up with is fine by me.

-- Nathan

=20

-----  
Nathan Neulinger EMail: nneul@um...

University of Missouri - Rolla Phone: (573) 341-6679

UMR Information Technology Fax: (573) 341-4216

> -----Original Message-----

> From: cracklib-devel-bounces@li...

> [mailto:cracklib-devel-bounces@li...] On Behalf Of

> Mike Frysinger

> Sent: Monday, October 01, 2007 8:33 PM

> To: Neulinger, Nathan

> Cc: cracklib-devel@li...; Alec Muffett

> Subject: Re: [Cracklib-devel] cracklib license

>=20

> On Monday 01 October 2007, Neulinger, Nathan wrote:

> > I understand that, and you're welcome to bring it up with Alec

> directly

> > and see if he wants to relicense his code as LGPL... but at this

> point,

> > it was enough to just get it consistent and documented as to what

> it was

> > released under. This wasn't actually a license change, just a

> > clarification of the licensing that was already in place.

>=20

> the original license (before moving to sourceforge -- aka, 2.7) was

> not

> GPL-2 ... it was a modified artistic license ... i didnt notice the

> license

> change until it was mentioned in the latest notes.  
>=20  
> unlike the old license, GPL-2 prevents people from using cracklib  
> unless their  
> applications are also GPL-2 which imo is just wrong. it isnt the  
> place of a  
> library  
to dictact to application writes what license they should  
> be using.  
> thus LGPL-2.1 enters to fill this void.  
> -mike

Re: [Cracklib-devel] cracklib license

From: Alec Muffett <alecm@cr...> - 2007-10-02 08:57

> Seems like the ideal thing here would be for you and the other distro  
> maintainers to get together with Alec in a conversation and come to a  
> decision as to what licensing scheme y'all want. I haven't really done  
> much other than cleaning up the packaging and patches and a small  
> bit of  
> additional code, so whatever licensing y'all come up with is fine  
> by me.

I am sympathetic. Guys, what do you reckon?

What I am hearing so far is that LGPL makes sense, since it can be  
linked with any code, not just GPL...

-a

Re: [Cracklib-devel] cracklib license

From: Devin Reade <gdr@gn...> - 2007-10-02 15:04

I would like to see it under LGPL as well. I

think it is in everyone's

best interests to have as secure systems as possible, and I think tainting  
it via GPL will just make it less likely that the library gets used, and  
will not usually cause companies/developers to GPL the dependent code  
(where it is not already GPL).

I like GPL, I use it when I can, but I don't think that it's the correct  
license in this situation.

Devin

--

If it's sinful, it's more fun.

Re: [Cracklib-devel] cracklib license

From: Nalin Dahyabhai <nalin@re...> - 2008-01-28 16:32

On Tue, Oct 02, 2007 at 09:57:31AM +0100, Alec Muffett wrote:

>> Seems like the ideal thing here would be for you and the other distro  
>> maintainers to get together with Alec in a conversation and come to a  
>> decision as to what licensing scheme y'all want. I haven't really done  
>> much other than cleaning up the packaging and patches and a small  
>> bit of  
>> additional

code, so whatever licensing y'all come up with is fine

>> by me.

>

> I am sympathetic. Guys, what do you reckon?

>

> What I am hearing so far is that LGPL makes sense, since it can be

> linked with any code, not just GPL...

My apologies for not chiming in in anything resembling a reasonable timeframe.

I'd also suggest the LGPL, for the reason you noted above. Alternately, GPLv2 with the option of using the library under a later version of the GPL would permit applications which were released under version 3 of the GPL to use the library, too, which would be sufficient for the packages which are included in Fedora. FWIW, I'd personally lean toward LGPL.

In any case, I thank you both for working on sorting this out.

Cheers,

Nalin

Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2008-10-05 21:27

Attachments: Message as HTML

On Monday 28 January 2008, Nalin Dahyabhai wrote:

> On Tue, Oct 02, 2007 at 09:57:31AM +0100, Alec Muffett wrote:

>>> Seems like the ideal thing here would be for you and the other distro  
>>> maintainers to get together with Alec in a conversation and come to a  
>>> decision as to what licensing scheme y'all want. I haven't really done  
>>> much other than cleaning up the packaging and patches and a small  
>>> bit of  
>>> additional code, so whatever licensing y'all come up with is fine  
>>> by me.  
>>



>> I am sympathetic. Guys, what do you reckon?  
>>  
>> What I am hearing so far is that LGPL makes sense, since it can be  
>> linked with any code, not just GPL...  
>  
> My apologies for not chiming in in anything resembling a reasonable  
> timeframe.  
>  
> I'd also suggest the LGPL, for the reason you noted above. Alternately,  
> GPLv2 with the option of using  
the library under a later version of the  
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> GPL to use the library, too, which would be sufficient for the packages  
> which are included in Fedora. FWIW, I'd personally lean toward LGPL.  
>  
> In any case, I thank you both for working on sorting this out.

looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we make  
the change now ?

-mike

Re: [Cracklib-devel] cracklib license

From: Alec Muffett <alecm@cr...> - 2008-10-05 23:18

>> In any case, I thank you both for working on sorting this out.

>

> looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we make  
> the change now ?

yes. go for it. thanks++

-a

Re: [Cracklib-devel] cracklib license

From: Mike Frysinger <vapier@ge...> - 2008-10-25 22:34

Attachments: Message as HTML

On Sunday 05 October

2008, Alec Muffett wrote:

>>> In any case, I thank you both for working on sorting this out.

>>

>> looks like everyone is OK with LGPL-2.1 (GNU Lesser license), so can we  
>> make the change now ?

>

> yes. go for it. thanks++

Nathan Neulinger is the only one who can actually make said change ...

-mike

-----  
BELOW IS ORIGINAL LICENSING DISCUSSION RE CHANGING TO GPL from Artistic.  
-----

CrackLib was originally licensed with a variant of the Artistic license. In the interests of wider acceptance and more modern licensing, it was switched with the original author's blessing to GPL v2.

This approval was carried out in email discussions in 2005, and has been reconfirmed as of 2007-10-01 with the following email from Alec Muffett.

The below email references nneul@umr.edu address, as that is the address that was used at the time. For any future emails regarding this, please use nneul@neulinger.org.

-----

From  
alecm@crypticide.com Mon Oct 1 12:26:03 2007  
Received: from umr-exproto2.cc.umr.edu ([131.151.0.192]) by UMR-CMAIL1.umr.edu with Microsoft SMTPSVC(6.0.3790.3959);  
Mon, 1 Oct 2007 12:26:03 -0500  
Received: from scansrv2.srv.mst.edu ([131.151.1.114]) by umr-exproto2.cc.umr.edu with Microsoft SMTPSVC(6.0.3790.3959);  
Mon, 1 Oct 2007 12:26:02 -0500  
Received: (qmail 8022 invoked from network); 1 Oct 2007 16:59:55 -0000  
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by scanin-ipvs.cc.umr.edu with SMTP; 1 Oct 2007 16:59:55 -0000  
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by smtp1.srv.mst.edu (8.13.1/8.13.1) with ESMTP id 191Gxtpr020623  
for <nneul@umr.edu>; Mon, 1 Oct 2007 11:59:55 -0500  
Received: from rutherford.zen.co.uk (rutherford.zen.co.uk [212.23.3.142])  
by spunkymail-mx8.g.dreamhost.com (Postfix) with ESMTP id 2C7734D311  
for <nneul@neulinger.org>; Mon, 1 Oct 2007 09:59:50 -0700 (PDT)  
Received: from  
[82.68.43.14] (helo=[192.168.1.3])  
by rutherford.zen.co.uk with esmtp (Exim 4.50)  
id 1IcOcX-0004Qt-6L  
for nneul@neulinger.org; Mon, 01 Oct 2007 16:59:49 +0000  
Mime-Version: 1.0 (Apple Message framework v752.2)  
In-Reply-To: <1b1b3fd80710010908k11dac0afp1f2dd471059ff9a4@mail.gmail.com>  
References: <1190922867.3457.147.camel@localhost.localdomain>

<EC90713277D2BE41B7110CCD74E235CEF44F38@UMR-CMAIL1.umr.edu>  
<1b1b3fd80710010908k11dac0afp1f2dd471059ff9a4@mail.gmail.com>  
Content-Type: text/plain; charset=US-ASCII; delsp=yes; format=flowed  
Message-Id: <117A1264-F6DC-4E25-B0DD-56FBFEBE6E9F@crypticide.com>  
Content-Transfer-Encoding: 7bit  
From: Alec Muffett <alecm@crypticide.com>  
Subject: Re: cracklib license  
Date: Mon, 1 Oct 2007 17:59:46 +0100  
To: Nathan Neulinger <nneul@neulinger.org>  
X-Mailer: Apple Mail (2.752.2)  
X-Originating-Rutherford-IP: [82.68.43.14]  
Return-Path: alecm@crypticide.com  
X-OriginalArrivalTime: 01 Oct 2007 17:26:03.0008 (UTC) FILETIME=[2420C000:01C80450]  
Status: RO  
Content-Length:  
585  
Lines: 21

>  
> ----- Forwarded message -----  
> From: Neulinger, Nathan <nneul@umr.edu>  
> Date: Sep 27, 2007 2:58 PM  
> Subject: RE: cracklib license  
> To: alecm@crypto.dircon.co.uk  
>  
> Any chance you could write me a self-contained email stating clearly  
> that the license is being changed to GPL, so I could include that  
> email  
> in the repository and clean up the repository/tarballs? I have all the  
> original discussion, but something succinct and self contained  
> would be  
> ideal.

The license for my code in the Cracklib distribution is henceforth GPL.

Happy now? :-)

-a

## 1.106 sed 4.2.1-10.el6

### 1.106.1 Available under license :

GNU GENERAL PUBLIC LICENSE

Version 3, 29 June 2007

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## 1.109 bzip2 1.0.5-7.el6\_0

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Julian Seward, jseward@bzip.org  
bzip2/libbzip2 version 1.0.5 of 10 December 2007

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## 1.110 libaio 0.3.107-10.el6

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## 1.112 libtool 2.2.6-15.5.el6

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For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be

allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

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(For example, a function in a library to compute square roots has

a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

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When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6.

Any executables

containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit



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- e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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## 1.119 libgpg-error 1.7-4.el6

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<signature of Ty Coon>, 1 April 1990  
Ty Coon, President of Vice

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## 1.120 netkit-ftp 0.17

### 1.120.1 Available under license :

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\*

/opt/cola/permits/1633532305\_1681719645.6079297/0/netkit-ftp-0-17-orig-tar-gz/netkit-ftp-0.17/ftp/domacro.c

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\* /opt/cola/permits/1633532305\_1681719645.6079297/0/netkit-ftp-0-17-orig-tar-gz/netkit-ftp-0.17/ftp/main.c

\*

/opt/cola/permits/1633532305\_1681719645.6079297/0/netkit-ftp-0-17-orig-tar-gz/netkit-ftp-0.17/ftp/cmds.c

\* /opt/cola/permits/1633532305\_1681719645.6079297/0/netkit-ftp-0-17-orig-tar-gz/netkit-ftp-0.17/ftp/cmdtab.c

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\*

\* from: @(#)ftp\_var.h 5.9 (Berkeley) 6/1/90  
\* \$Id: ftp\_var.h,v 1.12 1999/10/02 18:39:17 dholland Exp \$\br/>\*/

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\* /opt/cola/permits/1633532305\_1681719645.6079297/0/netkit-ftp-0-17-orig-tar-gz/netkit-ftp-0.17/ftp/ftp\_var.h  
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\*  
/opt/cola/permits/1633532305\_1681719645.6079297/0/netkit-ftp-0-17-orig-tar-gz/netkit-ftp-0.17/ftp/glob.h  
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*
* from: @(#)pathnames.h 5.2 (Berkeley) 6/1/90
* $Id: pathnames.h,v 1.1 1996/07/13 23:46:07 dholland Exp $
*/
```

Found in path(s):

```
* /opt/cola/permits/1633532305_1681719645.6079297/0/netkit-ftp-0-17-orig-tar-gz/netkit-ftp-0.17/ftp/pathnames.h
```

## 1.121 sqlite 3.6.20-1.el6



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\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-

MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/faq.html

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<html>

<head>

<title>SQLite Consortium Agreement</title>

</head>

<body bgcolor="white">

<h1 align="center">

SQLite Consortium Agreement

</h1>

<p>This SQLite Consortium Agreement ("Agreement") is made and entered into as of the \_\_\_\_ day of \_\_\_\_\_, 2007 ("Effective Date") by and between \_\_\_\_\_ (the "Company"), and Hipp, Wyrick & Company, Inc., a Georgia Corporation with headquarters at 6200 Maple Cove Lane, Charlotte, NC ("Hwaci").</p>

<p>WHEREAS, Hwaci is the developer of a serverless, embeddable, public domain SQL database engine available at <http://www.sqlite.org/> ("SQLite"); and</p>

<p>WHEREAS, Company wishes to support the independent development of the SQLite database engine to insure the continuing reliability, vitality, and independence of SQLite, and in connection therewith, Company wishes to provide funds for ongoing research, development, and maintenance of the SQLite code base, operation of the SQLite website, protection and maintenance of the SQLite trademark, as well as for promotion of SQLite at conferences and trade shows; and</p>

<p>WHEREAS, Company wishes to receive benefits in the form of services from Hwaci in consideration for their support of SQLite; and</b>

<p>WHEREAS, Company and Hwaci each wish SQLite to be supported and maintained as an independent, community-driven project, and to ensure the SQLite development team remains independent.</p>

<p>NOW, THEREFORE, in consideration of the mutual promises contained

herein, the parties agree as follows:</p>

## <h2>1.0 Definitions</h2>

### <h3>1.1 SQLite Developers</h3>

<p>The "SQLite Developers" are the employees or contractors of Hwaci engaged in the development of SQLite, including without limitation the SQLite Architect.</p>

### <h3>1.2 SQLite Architect</h3>

<p>The "SQLite Architect" is the SQLite Developer with ultimate responsibility and authority over changes and maintenance of the SQLite code. The current SQLite Architect is the original designer and developer of SQLite, D. Richard Hipp. Hwaci may change the SQLite Architect from time to time upon approval by Company.</p>

### <h3>1.3 Consortium Member</h3>

<p>A "Consortium Member" is a company or organization, including but not limited to Company, which has entered into an agreement with Hwaci which is substantially similar to this Agreement.</p></p>

## <h2>2.0 Agreement</h2>

### <h3>2.1 Responsibilities And Obligations Of SQLite Developers</h3>

#### <h4>2.1.1 General Support</h4>

<p>The SQLite Developers shall provide, without limit, timely and accurate answers, advice, and instruction in response to questions and comments from Company about SQLite submitted by email or by telephone at any time day or night.</p></p>

#### <h4>2.1.2 Debugging Support</h4>

The SQLite Developers shall at Company's request provide Company with direct assistance in debugging applications that are built upon or use SQLite. The combined time for Debugging Support and Custom Development for Company is limited to 330 hours per year.</p></p>

#### <h4>2.1.3 Custom Development</h4>

<p>The SQLite Developers shall at the request of Company write new extensions or enhancements to SQLite according to Company's specifications. These extensions and enhancements may be proprietary to Company or open source or

with the consent of both Company and the SQLite Architect may be folded into the public domain SQLite source tree.  
The time devoted to Custom Development for Company is limited 220 hours per year.

#### <h4>2.1.4 Custom Builds</h4>

The SQLite Developers shall at Company's request provide Company with specialized builds of SQLite according to Company's specifications.

#### <h4>2.1.5 Legacy Support</h4>

The SQLite Developers shall at Company's request provide support and bug-fix patches for any historical version of SQLite.

#### <h4>2.1.6 Custom Testing</h4>

The SQLite Developers shall at Company's request set up and run acceptance tests according Company's specifications that are specifically designed to exercise SQLite as configured and used by Company. These acceptance tests shall be run and shall pass prior to any release of SQLite.

#### <h4>2.1.7 Priority Bug Fixes</h4>

The SQLite Developers shall assign highest priority to fixing bugs in SQLite that are reported by Company or in which Company has expressed a specific interest.

#### <h4>2.1.8 Code Quality</h4>

The SQLite Developers shall at all times keep the SQLite source code well commented and documented and clearly structured and organized so that an experienced and competent programmer can understand it and support it after no more than a few months of study.

#### <h4>2.1.9 Backwards Compatibility</h4>

The SQLite Developers recognize that Company uses SQLite in mission-critical applications and therefore shall work diligently to ensure continuing bug-free correct operation and backwards compatibility with prior releases.

#### <h4>2.1.10 Test Coverage</h4>

The SQLite Developers shall maintain the SQLite test suite such

that no less than 95% source code coverage is provided.

</p>

#### <h4>2.1.11 Website</h4>

<p>The SQLite Developers shall maintain the SQLite website at <http://www.sqlite.org/> in good working order and all SQLite source code shall be made freely available at such website.

</p>

### <h3>2.2 Responsibilities And Obligations Of The SQLite Architect</h3>

#### <h4>2.2.1 Private Briefings</h4>

<p>The SQLite Architect shall, at the request of Company, provide Company with private notification and briefings of any new bugs or new features in SQLite that might effect Company's products.

</p>

#### <h4>2.2.2 Direction</h4>

<p>The SQLite Architect shall coordinate the activities of SQLite Developers and shall publish from time to time a roadmap of proposed future changes and enhancements to SQLite.

</p>

#### <h4>2.2.3 Oversight</h4>

<p>The SQLite Architect shall personally review all changes to the SQLite Source Code and take responsibility for the quality and correctness of those changes.

</p>

#### <h4>2.2.4 Continuity</h4>

<p>The initial SQLite Architect shall be the original developer of SQLite, D. Richard Hipp. The role of SQLite Architect shall not be assigned to another during the term of this Agreement except due to the disability of Dr. Hipp and with approval of Company.

</p>

### <h3>2.3 Responsibilities And Obligations Of Hwaci</h3>

#### <h4>2.3.1 Employer</h4>

<p>Hwaci shall act as the employer of the SQLite Developers and SQLite Architect and shall make all tax and legal filings and tax withholding required by employers. Hwaci shall provide Company with W-9 information upon request.

</p>

#### <h4>2.3.2 Responsible Party</h4>

<p>All obligations of the SQLite Developers set forth in this agreement are deemed obligations of Hwaci. Hwaci shall recruit, employ, and supervise SQLite Developers in such a way that the responsibilities and obligations of the SQLite Developers set forth in this agreement are upheld.</p>

#### <h4>2.3.3 Multiple Developers</h4>

<p>Hwaci shall recruit and employ as many SQLite Developers for as many hours as can be reasonably achieved using the funds received from Consortium Members under this agreement. So that support for SQLite will not be interrupted by the disability or withdrawal of any one SQLite Developer, Hwaci will keep at least two knowledgeable and competent SQLite Developers on staff.</p>

#### <h4>2.3.4 Mentorship</h4>

<p>Hwaci shall work to encourage independent programmers from around the world to become familiar with SQLite internals so that there will be a pool of talent able to support SQLite in the future.</p>

#### <h4>2.3.5 Audits</h4>

<p>Hwaci shall keep and maintain complete and accurate records of the use of development funds provided by Company and shall allow Company, or its representative, a certified public accountant mutually acceptable to Hwaci and Company, during office hours and at reasonable intervals, no more than once every 12 months, to inspect and make extracts or copies of such records solely for the purpose of ascertaining Hwaci's compliance with the objectives and requirements of this agreement.</p>

#### <h4>2.3.6 Disaster Planning</h4>

<p>Hwaci shall maintain backup copies of all SQLite source files and documentation, current and historical, at at least two separate locations separated from each other and from the primary on-line SQLite repository by at least 400 kilometers.</p>

#### <h4>2.3.7 Trademark</h4>

<p>Hwaci shall maintain ownership of the SQLite trademark and the sqlite.org domain name and shall purchase bandwidth and

server space for the <http://www.sqlite.org/> website.

#### 2.3.8 No Take-overs or Buy-outs

Neither Hwaci nor the SQLite Architect shall relinquish development control of SQLite during the term of this Agreement, by acquisition or merger or by any other means, except with the consent of Company.

#### 2.3.9

##### New Consortium Members

New Consortium Members may be accepted into the consortium from time to time under identical terms as this agreement, or under substantially similar terms that have been approved by existing Consortium Members.

#### 2.3.10 Adequate Staff

Hwaci shall recruit and employ a sufficient number of qualified SQLite Developers to easily cover all custom development, debugging, and general support service obligations for all Consortium Members while still providing ample time for the SQLite Developers to engage in general maintenance and extension of SQLite.

#### 2.3.11 Use Of Funds

Hwaci shall use the funds provided hereunder solely for the development and maintenance of SQLite as set forth in this Agreement. Interest on funds received in advance and held in trust will be reinvested and used for the same purposes as the principal.

### 2.4 Responsibilities And Obligations Of Company

#### 2.4.1 Funding

Company shall provide funding for the ongoing support and maintenance of SQLite as set forth in section 3.0 "Fees".

#### 2.4.2 Copyright Disclaimer

Company acknowledges that SQLite source code and documentation published on the <http://www.sqlite.org/> SQLite website is in the public domain and that nothing in this agreement shall change that fact.

</p>

## <h2>3.0 Fees</h2>

<p>In consideration of the performance by Hwaci, the SQLite Developers, and the SQLite Architect of the obligations described herein, Company shall pay Hwaci at least US \$75,000 per year in advance either annually, quarterly, or monthly, at Company's discretion.</p>

## <h2>4.0 Confidentiality</h2>

### <h3>4.1 Definition of Confidential Information</h3>

<p>"Confidential Information" means any Company proprietary information, technical data, trade secrets or know-how, including, but not limited to, research, product plans, products, services, customers, customer lists, markets, software, developments, inventions, processes, formulas, technology, designs, drawings, engineering, hardware configuration information, marketing, finances or other business information disclosed by Company either directly or indirectly in writing, orally or by drawings or inspection of parts or equipment.</p>

### <h3>4.2 Non-Use and Non-Disclosure.</h3>

<p>Hwaci shall not, during or subsequent to the term of this Agreement, use Company's Confidential Information for any purpose whatsoever other than the performance of the Services or disclose Company's Confidential Information to any third party. The parties acknowledge that Confidential Information will remain the sole property of Company. Hwaci shall take all reasonable precautions to prevent any unauthorized disclosure of Confidential Information including, but not limited to, having each employee or consultant of Hwaci, if any, with access to any Confidential Information, execute a nondisclosure agreement containing provisions in Company's favor substantially similar to this Agreement. Confidential Information does not include information that: (i) is known to Hwaci at the time of disclosure to Hwaci by Company as evidenced by written records of Hwaci; (ii) has become publicly known and made generally available through no wrongful act of Hwaci; or (iii) has been received by Hwaci from a third party who is authorized to make such disclosure.</p>

#### <h4>4.2.1 Disclosure Required by Law</h4>

In the event any Confidential Information is required to be disclosed

by Hwaci under the terms of a valid and effective subpoena or order issued by a court of competent jurisdiction, or by a demand or information request from an executive or administrative agency or other governmental authority, Hwaci shall, unless prohibited by the terms of a subpoena, order, or demand, promptly notify Company of the existence, terms and circumstances surrounding such demand or request, shall consult with Company on the advisability of

taking legally available steps to resist or narrow such demand or request, and, if disclosure of such Confidential Information is required, shall exercise its reasonable best efforts to narrow the scope of disclosure and obtain an order or other reliable assurance that confidential treatment will be accorded to such Confidential Information. To the extent that Hwaci is prohibited from notifying Company of a subpoena, order or demand, by the terms of same, Hwaci shall exercise its reasonable efforts to narrow the scope of disclosure.</p>

### <h3>4.3 Return of Materials.</h3>

<p>Upon the termination of this Agreement, or upon Company's earlier request, Hwaci shall deliver to Company all of Company's property or Confidential Information that Hwaci may have in Hwaci's possession or control.</p>

## <h2>5.0 Intellectual Property</h2>

### <h3>5.1 No Assignment</h3>

<p>Company acknowledges that all copyrightable material, notes, records, drawings, designs, inventions, improvements, developments,

discoveries and trade secrets made, generated, conceived, or reduced to practice by Hwaci related to SQLite will remain the property of Hwaci. Nothing in this Agreement will be construed to transfer any intellectual property right of Hwaci to Company.</p>

### <h3>5.2 Availability and Public Domain Dedication</h3>

<p>The SQLite Developers and Hwaci shall, subject to their discretion as to the quality and suitability of the SQLite source code and documentation for public release, make the SQLite source code and documentation publicly available as downloadable files and make a public statement ceding all intellectual



property rights, including but not limited to copyright and patent rights, in the SQLite source code and documentation to the public domain.

To the extent that the SQLite Developers and Hwaci elect not to release the SQLite source code and documentation publicly, they shall provide copies thereof to Company and hereby grants to Company, under all of the SQLite

Developers' and Hwaci's rights

including but not limited to copyright and patent rights, in and to the SQLite source code and documentation, perpetual, irrevocable, worldwide, non-exclusive, sublicenseable license to use, copy, prepare derivative works of, publicly perform and display the SQLite source code and documentation and derivative works thereof.</p>

### <h3>5.3 Trademark</h3>

<p>Hwaci shall use the name "SQLite" only to apply to the publicly available project known by such name as of the Effective Date. Hwaci may in its discretion file such trademark applications or registrations as it deems appropriate to protect or record its rights therein, and may set such policies as it deems appropriate for licensing the use of the trademark.</p>

## <h2>6.0 Representations And Warranties</h2>

### <h3>6.1 Intellectual Property Clearances.</h3>

<p>Hwaci hereby represents and warrants that Hwaci shall enter into agreements with the SQLite Developers sufficient to enable Hwaci to undertake the obligations of Section 5.</p>

### <h3>6.2 Disclaimer.</h3>

<p>THE WORK PRODUCT AND ALL MATERIAL PROVIDED BY HWACI AND COMPANY ARE PROVIDED "AS IS." NEITHER PARTY MAKES ANY REPRESENTATIONS OR WARRANTIES OF ANY KIND, WHETHER ORAL OR WRITTEN, WHETHER EXPRESS, IMPLIED, OR ARISING BY STATUTE, CUSTOM, COURSE OF DEALING OR TRADE USAGE, WITH RESPECT TO THE SUBJECT MATTER HEREOF, IN CONNECTION WITH THIS AGREEMENT. EACH PARTY SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES OR CONDITIONS OF TITLE, MERCHANTABILITY,

FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT.</p>

## <h2>7.0 Term And Termination</h2>

### <h3>7.1 Term.</h3>

<p>This Agreement will commence on the Effective Date and will continue until 12 months after the Effective Date. Thereafter, the parties may by mutual consent renew this Agreement subject to agreement on fees to be paid by Company for sponsorship for additional periods.</p>

### <h3>7.2 Termination.</h3>

<p>If either party materially defaults in the performance of any of its material obligations hereunder and if any such default is not corrected within 30 days after notice in writing, then the non-defaulting party, at its option, may, in addition to any other remedies it may have, thereupon terminate this Agreement by giving written notice of termination to the defaulting party.</p>

### <h3>7.3 Survival.</h3>

<p>Upon such termination all rights and duties of the parties toward each other will cease except: Sections 4 (Confidentiality), 5 (Intellectual Property), and 8 (Miscellaneous) will survive termination of this Agreement.</p>

## <h2>8. Miscellaneous</h2>

### <h3>8.1 Nonassignment/Binding Agreement.</h3>

<p>The parties acknowledge that the unique nature of Hwaci's services are substantial consideration for the parties' entering into this Agreement. Neither this Agreement nor any rights under this Agreement may be assigned or otherwise transferred by Hwaci, in whole or in part, whether voluntarily or by operation of law, without the prior written consent of Company, which consent will not be unreasonably withheld. Subject to the foregoing, this Agreement will be binding upon and will inure to the benefit of the parties and their respective successors and assigns. Any assignment in violation of the foregoing will be null and void.</p>

### 8.2 Notices.

Any notice required or permitted under the terms of this Agreement or required by law must be in writing and must be: (a) delivered in person; (b) sent by first class registered mail, or air mail, as appropriate; or (c) sent by overnight air courier, in each case properly posted and fully prepaid to the appropriate address set forth in the preamble to this Agreement. Either party may change its address for notice by notice to the other party given in accordance with this Section. Notices will be considered to have been given at the time of actual delivery in person, three business days after deposit in the mail as set forth above, or one day after delivery to an overnight air courier service.

### 8.3 Waiver.

Any waiver of the provisions of this Agreement or of a party's rights or remedies under this Agreement must be in writing to be effective. Failure, neglect, or delay by a party to enforce the provisions of this Agreement or its rights or remedies at any time, will not be construed as a waiver of such party's rights under this Agreement and will not in any way affect the validity of the whole or any part of this Agreement or prejudice such party's right to take subsequent action. No exercise or enforcement by either party of any right or remedy under this Agreement will preclude the enforcement by such party of any other right or remedy under this Agreement or that such party is entitled by law to enforce.

### 8.4 Severability.

If any term, condition, or provision in this Agreement is found to be invalid, unlawful or unenforceable to any extent, the parties shall endeavor in good faith to agree to such amendments that will preserve, as far as possible, the intentions expressed in this Agreement. If the parties fail to agree on such an amendment, such invalid term, condition or provision will be severed from the remaining terms, conditions and provisions, which will continue to be valid and enforceable to the fullest extent permitted by law.

### 8.5 Integration.

This Agreement contains the entire agreement of the parties with respect to the subject matter of this Agreement and supersedes all previous communications, representations, understandings and agreements, either oral or written, between the parties with respect to said subject matter. This Agreement may not be amended, except by a writing signed by both parties.

### 8.6 Counterparts.

This Agreement may be executed in counterparts, each of which so executed will be deemed to be an original and such counterparts together will constitute one and the same agreement.

### 8.7 Governing Law.

This Agreement will be interpreted and construed in accordance with the laws of the State of North Carolina and the United States of America, without regard to conflict of law principles. All disputes arising out of this Agreement will be subject to the exclusive jurisdiction of the state and federal courts located in North Carolina, and each party hereby consents to the personal jurisdiction thereof.

### 8.8 Independent Contractors.

It is the intention of the parties that Hwaci is an independent contractor. Nothing in this Agreement will in any way be construed to constitute Hwaci or any of its employees as an agent, employee or representative of Company.

## 9.0 Signatures

The parties have executed this Agreement below to indicate their acceptance of its terms.

HWACI
-------

By:

---

Print Name:

---

---

```
<p>&nbsp;</p>
Title:<hr>
<p>&nbsp;</p>
</td><td
width="10%"></td>
<td valign="top">
COMPANY<br>
By:<hr>
<p>&nbsp;</p>
Print Name:<hr>
<p>&nbsp;</p>
Title:<hr>
<p>&nbsp;</p>
</td></tr></table>
```

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/consortium_agreement-
20071201.html
```

No license file was found, but licenses were detected in source scan.

```
# 2001 September 15
```

```
#
```

```
# The author disclaims copyright to this source code. In place of
```

```
# a legal notice, here is a blessing:
```

```
#
```

```
# May you do good and not evil.
```

```
# May you find forgiveness for yourself and forgive others.
```

```
# May you share freely, never taking more than you give.
```

```
#
```

```
*****
```

```
# This file implements regression tests for SQLite library. The
```

```
# focus of this file is testing built-in functions.
```

```
#
```

```
set testdir [file dirname $argv0]
```

```
source $testdir/tester.tcl
```

```
# Create a table to work with.
```

```
#
```

```
do_test func-0.0 {
```

```
execsql {CREATE TABLE tb1(t1 text)}
```

```
foreach word {this program is free software} {
```

```
execsql "INSERT INTO tb1 VALUES('$word')"
```

```
}
```

```
execsql {SELECT t1 FROM tb1 ORDER BY t1}
```

```
} {free is program software this}
```

```
do_test func-0.1 {
```

```

execsql {
  CREATE TABLE t2(a);
  INSERT INTO t2 VALUES(1);
  INSERT INTO t2 VALUES(NULL);
  INSERT INTO t2 VALUES(345);
  INSERT INTO t2 VALUES(NULL);
  INSERT INTO t2 VALUES(67890);
  SELECT * FROM t2;
}
} {1 {} 345 {} 67890}

# Check out the length() function
#
do_test func-1.0 {
  execsql {SELECT length(t1) FROM tbl1 ORDER BY t1}
} {4 2 7 8 4}
do_test func-1.1 {
  set r [catch {execsql {SELECT length(*) FROM tbl1 ORDER BY t1}} msg]
  lappend r $msg
} {1 {wrong number of arguments to function length()}}
do_test func-1.2 {
  set r [catch {execsql {SELECT length(t1,5) FROM tbl1 ORDER BY t1}} msg]
  lappend r $msg
} {1 {wrong number of arguments to function length()}}
do_test func-1.3 {
  execsql {SELECT length(t1), count(*) FROM tbl1 GROUP BY length(t1)
          ORDER BY length(t1)}
} {2 1 4 2 7 1 8 1}
do_test func-1.4 {
  execsql {SELECT coalesce(length(a),-1) FROM t2}
} {1 -1 3 -1 5}

# Check out the substr() function
#
do_test func-2.0 {
  execsql {SELECT substr(t1,1,2) FROM tbl1 ORDER BY t1}
} {fr is pr so th}
do_test func-2.1 {
  execsql {SELECT substr(t1,2,1)
          FROM tbl1 ORDER BY t1}
} {r s r o h}
do_test func-2.2 {
  execsql {SELECT substr(t1,3,3) FROM tbl1 ORDER BY t1}
} {ee {} ogr ftw is}
do_test func-2.3 {
  execsql {SELECT substr(t1,-1,1) FROM tbl1 ORDER BY t1}
} {e s m e s}
do_test func-2.4 {

```

```

execsql {SELECT substr(t1,-1,2) FROM tbl1 ORDER BY t1}
} {e s m e s}
do_test func-2.5 {
execsql {SELECT substr(t1,-2,1) FROM tbl1 ORDER BY t1}
} {e i a r i}
do_test func-2.6 {
execsql {SELECT substr(t1,-2,2) FROM tbl1 ORDER BY t1}
} {ee is am re is}
do_test func-2.7 {
execsql {SELECT substr(t1,-4,2) FROM tbl1 ORDER BY t1}
} {fr {} gr wa th}
do_test func-2.8 {
execsql {SELECT t1 FROM tbl1 ORDER BY substr(t1,2,20)}
} {this software free program is}
do_test func-2.9 {
execsql {SELECT substr(a,1,1) FROM t2}
} {1 {} 3 {} 6}
do_test func-2.10 {
execsql {SELECT substr(a,2,2) FROM t2}
} {{{} {} 45 {} 78}

```

# Only do the following tests if TCL has UTF-8 capabilities

#

```
if {"\u1234"!="u1234"} {
```

# Put some UTF-8 characters in the database

#

do\_test

func-3.0 {

```
execsql {DELETE FROM tbl1}
```

```
foreach word "contains UTF-8 characters hi\u1234ho" {
```

```
  execsql "INSERT INTO tbl1 VALUES('$word')"
```

```
}
```

```
execsql {SELECT t1 FROM tbl1 ORDER BY t1}
```

```
} "UTF-8 characters contains hi\u1234ho"
```

do\_test func-3.1 {

```
execsql {SELECT length(t1) FROM tbl1 ORDER BY t1}
```

```
} {5 10 8 5}
```

do\_test func-3.2 {

```
execsql {SELECT substr(t1,1,2) FROM tbl1 ORDER BY t1}
```

```
} {UT ch co hi}
```

do\_test func-3.3 {

```
execsql {SELECT substr(t1,1,3) FROM tbl1 ORDER BY t1}
```

```
} "UTF cha con hi\u1234"
```

do\_test func-3.4 {

```
execsql {SELECT substr(t1,2,2) FROM tbl1 ORDER BY t1}
```

```
} "TF ha on i\u1234"
```

do\_test func-3.5 {

```

execsql {SELECT substr(t1,2,3) FROM tbl1 ORDER BY t1}
} "TF- har ont i\u1234h"
do_test func-3.6 {
execsql {SELECT substr(t1,3,2) FROM tbl1 ORDER BY t1}
} "F- ar nt \u1234h"
do_test func-3.7 {
execsql {SELECT substr(t1,4,2) FROM tbl1 ORDER BY t1}
} "-8 ra ta ho"
do_test func-3.8 {
execsql {SELECT substr(t1,-1,1) FROM tbl1 ORDER BY t1}
} "8 s s o"
do_test
func-3.9 {
execsql {SELECT substr(t1,-3,2) FROM tbl1 ORDER BY t1}
} "F- er in \u1234h"
do_test func-3.10 {
execsql {SELECT substr(t1,-4,3) FROM tbl1 ORDER BY t1}
} "TF- ter ain i\u1234h"
do_test func-3.99 {
execsql {DELETE FROM tbl1}
foreach word {this program is free software} {
execsql "INSERT INTO tbl1 VALUES('$word')"
}
execsql {SELECT t1 FROM tbl1}
} {this program is free software}

} ;# End \u1234!=u1234

# Test the abs() and round() functions.
#
ifcapable !floatingpoint {
do_test func-4.1 {
execsql {
CREATE TABLE t1(a,b,c);
INSERT INTO t1 VALUES(1,2,3);
INSERT INTO t1 VALUES(2,12345678901234,-1234567890);
INSERT INTO t1 VALUES(3,-2,-5);
}
catchsql {SELECT abs(a,b) FROM t1}
} {1 {wrong number of arguments to function abs()}}
}
ifcapable floatingpoint {
do_test func-4.1 {
execsql {
CREATE TABLE t1(a,b,c);
INSERT INTO t1 VALUES(1,2,3);
INSERT INTO t1 VALUES(2,1.2345678901234,-12345.67890);
INSERT

```



```

INTO t1 VALUES(3,-2,-5);
}
catchsql {SELECT abs(a,b) FROM t1}
} {1 {wrong number of arguments to function abs()}}
}
do_test func-4.2 {
catchsql {SELECT abs() FROM t1}
} {1 {wrong number of arguments to function abs()}}
ifcapable floatingpoint {
do_test func-4.3 {
catchsql {SELECT abs(b) FROM t1 ORDER BY a}
} {0 {2 1.2345678901234 2}}
do_test func-4.4 {
catchsql {SELECT abs(c) FROM t1 ORDER BY a}
} {0 {3 12345.6789 5}}
}
ifcapable !floatingpoint {
if {[working_64bit_int]} {
do_test func-4.3 {
catchsql {SELECT abs(b) FROM t1 ORDER BY a}
} {0 {2 12345678901234 2}}
}
do_test func-4.4 {
catchsql {SELECT abs(c) FROM t1 ORDER BY a}
} {0 {3 1234567890 5}}
}
do_test func-4.4.1 {
execsql {SELECT abs(a) FROM t2}
} {1 {} 345 {} 67890}
do_test func-4.4.2 {
execsql {SELECT abs(t1) FROM tbl1}
} {0.0 0.0 0.0 0.0 0.0}

ifcapable floatingpoint {
do_test func-4.5 {
catchsql {SELECT round(a,b,c) FROM t1}
} {1 {wrong number of arguments to function
round()}}
do_test func-4.6 {
catchsql {SELECT round(b,2) FROM t1 ORDER BY b}
} {0 {-2.0 1.23 2.0}}
do_test func-4.7 {
catchsql {SELECT round(b,0) FROM t1 ORDER BY a}
} {0 {2.0 1.0 -2.0}}
do_test func-4.8 {
catchsql {SELECT round(c) FROM t1 ORDER BY a}
} {0 {3.0 -12346.0 -5.0}}
do_test func-4.9 {

```

```

    catchsql {SELECT round(c,a) FROM t1 ORDER BY a}
} {0 {3.0 -12345.68 -5.0}}
do_test func-4.10 {
    catchsql {SELECT 'x' || round(c,a) || 'y' FROM t1 ORDER BY a}
} {0 {x3.0y x-12345.68y x-5.0y}}
do_test func-4.11 {
    catchsql {SELECT round() FROM t1 ORDER BY a}
} {1 {wrong number of arguments to function round()}}
do_test func-4.12 {
    execsql {SELECT coalesce(round(a,2),'nil') FROM t2}
} {1.0 nil 345.0 nil 67890.0}
do_test func-4.13 {
    execsql {SELECT round(t1,2) FROM tb1}
} {0.0 0.0 0.0 0.0 0.0}
do_test func-4.14 {
    execsql {SELECT typeof(round(5.1,1));}
} {real}
do_test func-4.15 {
    execsql {SELECT typeof(round(5.1));}
} {real}
do_test func-4.16 {
    catchsql {SELECT round(b,2.0) FROM t1 ORDER BY b}
} {0 {-2.0 1.23 2.0}}
}

# Test the upper() and lower() functions
#
do_test func-5.1 {
    execsql {SELECT upper(t1) FROM tb1}
} {THIS PROGRAM IS FREE SOFTWARE}
do_test func-5.2 {
    execsql {SELECT lower(upper(t1)) FROM tb1}
} {this program is free software}
do_test func-5.3 {
    execsql {SELECT upper(a), lower(a) FROM t2}
} {1 1 {} {} 345 345 {} {} 67890 67890}
ifcapable !icu {
    do_test func-5.4 {
        catchsql {SELECT upper(a,5) FROM t2}
    } {1 {wrong number of arguments to function upper()}}
}
do_test func-5.5 {
    catchsql {SELECT upper(*) FROM t2}
} {1 {wrong number of arguments to function upper()}}

# Test the coalesce() and nullif() functions
#
do_test func-6.1 {

```

```

execsql {SELECT coalesce(a,'xyz') FROM t2}
} {1 xyz 345 xyz 67890}
do_test func-6.2 {
  execsql {SELECT coalesce(upper(a),'nil') FROM t2}
} {1 nil 345 nil 67890}
do_test func-6.3 {
  execsql {SELECT coalesce(nullif(1,1),'nil')}
}
{nil}
do_test func-6.4 {
  execsql {SELECT coalesce(nullif(1,2),'nil')}
} {1}
do_test func-6.5 {
  execsql {SELECT coalesce(nullif(1,NULL),'nil')}
} {1}

# Test the last_insert_rowid() function
#
do_test func-7.1 {
  execsql {SELECT last_insert_rowid()}
} [db last_insert_rowid]

# Tests for aggregate functions and how they handle NULLs.
#
ifcapable floatingpoint {
  do_test func-8.1 {
    ifcapable explain {
      execsql {EXPLAIN SELECT sum(a) FROM t2;}
    }
    execsql {
      SELECT sum(a), count(a), round(avg(a),2), min(a), max(a), count(*) FROM t2;
    }
  } {68236 3 22745.33 1 67890 5}
}
ifcapable !floatingpoint {
  do_test func-8.1 {
    ifcapable explain {
      execsql {EXPLAIN SELECT sum(a) FROM t2;}
    }
    execsql {
      SELECT sum(a), count(a), avg(a), min(a), max(a), count(*) FROM t2;
    }
  } {68236 3 22745.0 1 67890 5}
}
do_test func-8.2 {
  execsql {
    SELECT max('z+'||a||'abcdefghijklmnopqrstuvwxyzaBCDEFGHIJKLMNOP') FROM t2;
  }
}

```

```

}
} {z+67890abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ}

ifcapable
tempdb {
do_test func-8.3 {
execsql {
CREATE TEMP TABLE t3 AS SELECT a FROM t2 ORDER BY a DESC;
SELECT min('z+'||a||'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ') FROM t3;
}
} {z+1abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ}
} else {
do_test func-8.3 {
execsql {
CREATE TABLE t3 AS SELECT a FROM t2 ORDER BY a DESC;
SELECT min('z+'||a||'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ') FROM t3;
}
} {z+1abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ}
}
do_test func-8.4 {
execsql {
SELECT max('z+'||a||'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ') FROM t3;
}
} {z+67890abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ}
ifcapable compound {
do_test func-8.5 {
execsql {
SELECT sum(x) FROM (SELECT '9223372036' || '854775807' AS x
UNION ALL SELECT -9223372036854775807)
}
} {0}
do_test func-8.6 {
execsql {
SELECT typeof(sum(x)) FROM (SELECT '9223372036' || '854775807' AS
x
UNION ALL SELECT -9223372036854775807)
}
} {integer}
do_test func-8.7 {
execsql {
SELECT typeof(sum(x)) FROM (SELECT '9223372036' || '854775808' AS x
UNION ALL SELECT -9223372036854775807)
}
} {real}
ifcapable floatingpoint {
do_test func-8.8 {
execsql {
SELECT sum(x)>0.0 FROM (SELECT '9223372036' || '854775808' AS x

```

```

        UNION ALL SELECT -922337203685000000)
    }
} {1}
}
ifcapable !floatingpoint {
do_test func-8.8 {
    execsql {
        SELECT sum(x)>0 FROM (SELECT '9223372036' || '854775808' AS x
            UNION ALL SELECT -922337203685000000)
    }
} {1}
}
}

```

# How do you test the random() function in a meaningful, deterministic way?

```

#
do_test func-9.1 {
    execsql {
        SELECT random() is not null;
    }
} {1}
do_test func-9.2 {
    execsql {
        SELECT typeof(random());
    }
} {integer}
do_test func-9.3 {
    execsql {
        SELECT randblob(32) is not null;
    }
} {1}
do_test func-9.4 {
    execsql {
        SELECT typeof(randblob(32));
    }
} {blob}
do_test func-9.5 {
    execsql {
        SELECT length(randblob(32)), length(randblob(-5)),
            length(randblob(2000))
    }
} {32 1 2000}

```

# The "hex()" function was added in order to be able to render blobs  
# generated by randblob(). So this seems like a good place to test  
# hex().

```

#
ifcapable bloblit {

```

```

do_test func-9.10 {
    execsql {SELECT hex(x'00112233445566778899aAbBcCdDeEfF')}
} {00112233445566778899AABBCCDDEEFF}
}
set encoding [db one {PRAGMA encoding}]
if {$encoding=="UTF-16le"} {
do_test func-9.11-utf16le {
    execsql {SELECT hex(replace('abcdefg','ef','12'))}
} {6100620063006400310032006700}
do_test func-9.12-utf16le {
    execsql {SELECT hex(replace('abcdefg','','12'))}
} {6100620063006400650066006700}
do_test func-9.13-utf16le {
    execsql {SELECT hex(replace('abcdefg','a','aaa'))}
} {61006100610061006100620063006400650066006700}
} elseif {$encoding=="UTF-8"}
{
do_test func-9.11-utf8 {
    execsql {SELECT hex(replace('abcdefg','ef','12'))}
} {61626364313267}
do_test func-9.12-utf8 {
    execsql {SELECT hex(replace('abcdefg','','12'))}
} {61626364656667}
do_test func-9.13-utf8 {
    execsql {SELECT hex(replace('abcdefg','a','aaa'))}
} {616161616161626364656667}
}

# Use the "sqlite_register_test_function" TCL command which is part of
# the text fixture in order to verify correct operation of some of
# the user-defined SQL function APIs that are not used by the built-in
# functions.
#
set ::DB [sqlite3_connection_pointer db]
sqlite_register_test_function $::DB testfunc
do_test func-10.1 {
catchsql {
    SELECT testfunc(NULL,NULL);
}
} {1 {first argument should be one of: int int64 string double null value}}
do_test func-10.2 {
execsql {
    SELECT testfunc(
        'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
        'int', 1234
    );
}
} {1234}

```

```

do_test func-10.3 {
    execsql {
        SELECT testfunc(
            'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
            'string', NULL
        );
    }
} {}

```

```

ifcapable floatingpoint {
    do_test func-10.4 {
        execsql {
            SELECT testfunc(
                'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
                'double', 1.234
            );
        }
    } {1.234}
}

```

```

do_test func-10.5 {
    execsql {
        SELECT testfunc(
            'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
            'int', 1234,
            'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
            'string', NULL,
            'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
            'double', 1.234,
            'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
            'int', 1234,
            'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
            'string', NULL,
            'string', 'abcdefghijklmnopqrstuvwxyABCDEFGHIJKLMNOPQRSTUVWXYZ',
            'double', 1.234
        );
    }
} {1.234}
}

```

```

# Test the built-in
sqlite_version(*) SQL function.
#

```

```

do_test func-11.1 {
    execsql {
        SELECT sqlite_version(*)
    }
} [sqlite3 -version]

```

```

# Test that destructors passed to sqlite3 by calls to sqlite3_result_text()

```

```

# etc. are called. These tests use two special user-defined functions
# (implemented in func.c) only available in test builds.
#
# Function test_destructor() takes one argument and returns a copy of the
# text form of that argument. A destructor is associated with the return
# value. Function test_destructor_count() returns the number of outstanding
# destructor calls for values returned by test_destructor().
#
if {[db eval {PRAGMA encoding}]==="UTF-8"} {
do_test func-12.1-utf8 {
    execsql {
        SELECT test_destructor('hello world'), test_destructor_count();
    }
} {{hello world} 1}
} else {
    ifcapable {utf16} {
do_test func-12.1-utf16 {
    execsql {
        SELECT test_destructor16('hello world'), test_destructor_count();
    }
} {{hello world} 1}
}
}
do_test
func-12.2 {
    execsql {
        SELECT test_destructor_count();
    }
} {0}
do_test func-12.3 {
    execsql {
        SELECT test_destructor('hello')||' world'
    }
} {{hello world}}
do_test func-12.4 {
    execsql {
        SELECT test_destructor_count();
    }
} {0}
do_test func-12.5 {
    execsql {
        CREATE TABLE t4(x);
        INSERT INTO t4 VALUES(test_destructor('hello'));
        INSERT INTO t4 VALUES(test_destructor('world'));
        SELECT min(test_destructor(x)), max(test_destructor(x)) FROM t4;
    }
} {hello world}
do_test func-12.6 {

```



```

execsql {
  SELECT test_destructor_count();
}
} {0}
do_test func-12.7 {
  execsql {
    DROP TABLE t4;
  }
} {}

```

# Test that the auxdata API for scalar functions works. This test uses  
# a special user-defined function only available in test builds,  
# test\_auxdata(). Function test\_auxdata() takes any number of arguments.

```

do_test func-13.1 {
  execsql {
    SELECT test_auxdata('hello world');
  }
} {0}

do_test func-13.2 {
  execsql {
    CREATE TABLE t4(a, b);
    INSERT INTO t4 VALUES('abc', 'def');
    INSERT INTO t4 VALUES('ghi', 'jkl');
  }
} {}

do_test func-13.3 {
  execsql {
    SELECT test_auxdata('hello world') FROM t4;
  }
} {0 1}

do_test func-13.4 {
  execsql {
    SELECT test_auxdata('hello world', 123) FROM t4;
  }
} {{0 0} {1 1}}

do_test func-13.5 {
  execsql {
    SELECT test_auxdata('hello world', a) FROM t4;
  }
} {{0 0} {1 0}}

do_test func-13.6 {
  execsql {
    SELECT test_auxdata('hello' || 'world', a) FROM t4;
  }
} {{0 0} {1 0}}

```

```

# Test that auxiliary data is preserved between calls for SQL variables.
do_test func-13.7 {
    set DB [sqlite3_connection_pointer db]
    set sql "SELECT test_auxdata( ?, a ) FROM t4;"
    set STMT [sqlite3_prepare $DB $sql -1 TAIL]
    sqlite3_bind_text $STMT 1 hello\000 -1
    set res [list]
    while { "SQLITE_ROW"==[sqlite3_step $STMT] } {
        lappend res [sqlite3_column_text $STMT 0]
    }
    lappend res [sqlite3_finalize $STMT]
} {{0 0} {1 0} SQLITE_OK}

# Make sure that a function with a very long name
# is rejected
do_test func-14.1 {
    catch {
        db function [string repeat X 254] {return "hello"}
    } {0}
} {0}
do_test func-14.2 {
    catch {
        db function [string repeat X 256] {return "hello"}
    } {1}
} {1}

do_test func-15.1 {
    catchsql {select test_error(NULL)}
} {1 {}}
do_test func-15.2 {
    catchsql {select test_error('this is the error message')}
} {1 {this is the error message}}
do_test func-15.3 {
    catchsql {select test_error('this is the error message',12)}
} {1 {this is the error message}}
do_test func-15.4 {
    db errorcode
} {12}

# Test the quote function for BLOB and NULL values.
do_test func-16.1 {
    execsql {
        CREATE TABLE tbl2(a, b);
    }
    set STMT [sqlite3_prepare $::DB "INSERT INTO tbl2 VALUES(?, ?)" -1 TAIL]
    sqlite3_bind_blob $::STMT 1 abc 3
    sqlite3_step $::STMT
    sqlite3_finalize $::STMT
}

```

```

execsql {
  SELECT quote(a), quote(b) FROM tbl2;
}
} {X'616263' NULL}

# Correctly handle function error messages that include %. Ticket #1354
#
do_test func-17.1 {
  proc
  testfunc1 args {error "Error %d with %s percents %p"}
  db function testfunc1 ::testfunc1
  catchsql {
    SELECT testfunc1(1,2,3);
  }
} {1 {Error %d with %s percents %p}}

# The SUM function should return integer results when all inputs are integer.
#
do_test func-18.1 {
  execsql {
    CREATE TABLE t5(x);
    INSERT INTO t5 VALUES(1);
    INSERT INTO t5 VALUES(-99);
    INSERT INTO t5 VALUES(10000);
    SELECT sum(x) FROM t5;
  }
} {9902}
ifcapable floatingpoint {
  do_test func-18.2 {
    execsql {
      INSERT INTO t5 VALUES(0.0);
      SELECT sum(x) FROM t5;
    }
  } {9902.0}
}

# The sum of nothing is NULL. But the sum of all NULLs is NULL.
#
# The TOTAL of nothing is 0.0.
#
do_test func-18.3 {
  execsql {
    DELETE FROM t5;
    SELECT sum(x), total(x) FROM t5;
  }
} {{} 0.0}
do_test func-18.4 {
  execsql {

```

```

INSERT INTO t5 VALUES(NULL);
SELECT sum(x), total(x) FROM t5
}
} {} 0.0}
do_test func-18.5 {
execsql {
INSERT INTO t5 VALUES(NULL);
SELECT sum(x), total(x)
FROM t5
}
} {} 0.0}
do_test func-18.6 {
execsql {
INSERT INTO t5 VALUES(123);
SELECT sum(x), total(x) FROM t5
}
} {123 123.0}

```

# Ticket #1664, #1669, #1670, #1674: An integer overflow on SUM causes  
# an error. The non-standard TOTAL() function continues to give a helpful  
# result.

```

#
do_test func-18.10 {
execsql {
CREATE TABLE t6(x INTEGER);
INSERT INTO t6 VALUES(1);
INSERT INTO t6 VALUES(1<<62);
SELECT sum(x) - ((1<<62)+1) from t6;
}
} 0
do_test func-18.11 {
execsql {
SELECT typeof(sum(x)) FROM t6
}
} integer
ifcapable floatingpoint {
do_test func-18.12 {
catchsql {
INSERT INTO t6 VALUES(1<<62);
SELECT sum(x) - ((1<<62)*2.0+1) from t6;
}
} {1 {integer overflow}}
do_test func-18.13 {
execsql {
SELECT total(x) - ((1<<62)*2.0+1) FROM t6
}
} 0.0
}

```

```

ifcapable !floatingpoint {
do_test func-18.12 {
catchsql {
INSERT INTO t6 VALUES(1<<62);
SELECT sum(x) - ((1<<62)*2+1) from t6;
}
} {1 {integer overflow}}
do_test func-18.13 {
execsql {
SELECT total(x) - ((1<<62)*2+1) FROM t6
}
} 0.0
}
if {[working_64bit_int]} {
do_test func-18.14 {
execsql {
SELECT sum(-9223372036854775805);
}
} -9223372036854775805
}
ifcapable compound&&subquery {

do_test func-18.15 {
catchsql {
SELECT sum(x) FROM
(SELECT 9223372036854775807 AS x UNION ALL
SELECT 10 AS x);
}
} {1 {integer overflow}}
if {[working_64bit_int]} {
do_test func-18.16 {
catchsql {
SELECT sum(x) FROM
(SELECT 9223372036854775807 AS x UNION ALL
SELECT -10 AS x);
}
} {0 9223372036854775797}
do_test func-18.17 {
catchsql {
SELECT sum(x) FROM
(SELECT -9223372036854775807 AS x UNION ALL
SELECT 10 AS x);
}
} {0 -9223372036854775797}
}
do_test func-18.18 {
catchsql {
SELECT sum(x) FROM

```

```

        (SELECT -9223372036854775807 AS x UNION ALL
        SELECT -10 AS x);
    }
} {1 {integer overflow}}
do_test
func-18.19 {
catchsql {
    SELECT sum(x) FROM (SELECT 9 AS x UNION ALL SELECT -10 AS x);
}
} {0 -1}
do_test func-18.20 {
catchsql {
    SELECT sum(x) FROM (SELECT -9 AS x UNION ALL SELECT 10 AS x);
}
} {0 1}
do_test func-18.21 {
catchsql {
    SELECT sum(x) FROM (SELECT -10 AS x UNION ALL SELECT 9 AS x);
}
} {0 -1}
do_test func-18.22 {
catchsql {
    SELECT sum(x) FROM (SELECT 10 AS x UNION ALL SELECT -9 AS x);
}
} {0 1}

} ;# ifcapable compound&&subquery

# Integer overflow on abs()
#
if {[working_64bit_int]} {
do_test func-18.31 {
catchsql {
    SELECT abs(-9223372036854775807);
}
} {0 9223372036854775807}
}
do_test func-18.32 {
catchsql {
    SELECT abs(-9223372036854775807-1);
}
} {1 {integer overflow}}

# The MATCH function exists but is only a stub and always throws an error.
#
do_test func-19.1 {
execsql {
    SELECT match(a,b) FROM t1 WHERE 0;
}
}

```

```

}
} {}
do_test func-19.2 {
catchsql {
    SELECT 'abc' MATCH 'xyz';
}
} {1 {unable
to use function MATCH in the requested context}}
do_test func-19.3 {
catchsql {
    SELECT 'abc' NOT MATCH 'xyz';
}
} {1 {unable to use function MATCH in the requested context}}
do_test func-19.4 {
catchsql {
    SELECT match(1,2,3);
}
} {1 {wrong number of arguments to function match()}}

# Soundex tests.
#
if {[catch {db eval {SELECT soundex('hello')}}]} {
set i 0
foreach {name sdx} {
    euler    E460
    EULER    E460
    Euler    E460
    ellery   E460
    gauss    G200
    ghosh    G200
    hilbert  H416
    Heilbronn H416
    knuth    K530
    kant     K530
    Lloyd    L300
    LADD     L300
    Lukasiewicz L222
    Lissajous L222
    A        A000
    12345    ?000
} {
incr i
do_test func-20.$i {
    execsql {SELECT soundex($name)}
} $sdx
}
}

```

```

# Tests of the REPLACE function.
#
do_test func-21.1 {
catchsql {
    SELECT replace(1,2);
}
} {1 {wrong number of arguments to function replace()}}
do_test
func-21.2 {
catchsql {
    SELECT replace(1,2,3,4);
}
} {1 {wrong number of arguments to function replace()}}
do_test func-21.3 {
execsql {
    SELECT typeof(replace("This is the main test string", NULL, "ALT"));
}
} {null}
do_test func-21.4 {
execsql {
    SELECT typeof(replace(NULL, "main", "ALT"));
}
} {null}
do_test func-21.5 {
execsql {
    SELECT typeof(replace("This is the main test string", "main", NULL));
}
} {null}
do_test func-21.6 {
execsql {
    SELECT replace("This is the main test string", "main", "ALT");
}
} {{This is the ALT test string}}
do_test func-21.7 {
execsql {
    SELECT replace("This is the main test string", "main", "larger-main");
}
} {{This is the larger-main test string}}
do_test func-21.8 {
execsql {
    SELECT replace("aaaaaaa", "a", "0123456789");
}
} {0123456789012345678901234567890123456789012345678901234567890123456789}

ifcapable tclvar {
do_test func-21.9 {
    # Attempt to exploit a buffer-overflow that

```



```

at one time existed
# in the REPLACE function.
set ::str "[string repeat A 29998]CC[string repeat A 35537]"
set ::rep [string repeat B 65536]
execsql {
  SELECT LENGTH(REPLACE($::str, 'C', $::rep));
}
} [expr 29998 + 2*65536 + 35537]
}

```

# Tests for the TRIM, LTRIM and RTRIM functions.

#

```

do_test func-22.1 {
  catchsql {SELECT trim(1,2,3)}
} {1 {wrong number of arguments to function trim()}}
do_test func-22.2 {
  catchsql {SELECT ltrim(1,2,3)}
} {1 {wrong number of arguments to function ltrim()}}
do_test func-22.3 {
  catchsql {SELECT rtrim(1,2,3)}
} {1 {wrong number of arguments to function rtrim()}}
do_test func-22.4 {
  execsql {SELECT trim(' hi ');}
} {hi}
do_test func-22.5 {
  execsql {SELECT ltrim(' hi ');}
} {{hi }}
do_test func-22.6 {
  execsql {SELECT rtrim(' hi ');}
} {{ hi}}
do_test func-22.7 {
  execsql {SELECT trim(' hi ','xyz');}
} {{ hi }}
do_test func-22.8 {
  execsql {SELECT ltrim(' hi ','xyz');}
} {{ hi }}
do_test func-22.9 {
  {
  execsql {SELECT rtrim(' hi ','xyz');}
} {{ hi }}
do_test func-22.10 {
  execsql {SELECT trim('xyxzy hi zzy','xyz');}
} {{ hi }}
do_test func-22.11 {
  execsql {SELECT ltrim('xyxzy hi zzy','xyz');}
} {{ hi zzy}}
do_test func-22.12 {
  execsql {SELECT rtrim('xyxzy hi zzy','xyz');}
}

```

```

} {{xyxzy hi }}
do_test func-22.13 {
  execsql {SELECT trim(' hi ');}
} {{ hi }}
if {[db one {PRAGMA encoding}]=="UTF-8"} {
  do_test func-22.14 {
    execsql {SELECT hex(trim(x'c280e1bfbff48fbfbf6869',x'6162e1bfbfc280'))}
  } {F48FBFBF6869}
  do_test func-22.15 {
    execsql {SELECT hex(trim(x'6869c280e1bfbff48fbfbf61',
      x'6162e1bfbfc280f48fbfbf'))}
  } {6869}
  do_test func-22.16 {
    execsql {SELECT hex(trim(x'ceb1ceb2ceb3',x'ceb1'));}
  } {CEB2CEB3}
}
do_test func-22.20 {
  execsql {SELECT typeof(trim(NULL));}
} {null}
do_test func-22.21 {
  execsql {SELECT typeof(trim(NULL,'xyz'));}
} {null}
do_test func-22.22 {
  execsql {SELECT typeof(trim('hello',NULL));}
}
{null}

# This is to test the deprecated sqlite3_aggregate_count() API.
#
ifcapable deprecated {
  do_test func-23.1 {
    sqlite3_create_aggregate db
    execsql {
      SELECT legacy_count() FROM t6;
    }
  } {3}
}

# The group_concat() function.
#
do_test func-24.1 {
  execsql {
    SELECT group_concat(t1) FROM tbl1
  }
} {this,program,is,free,software}
do_test func-24.2 {
  execsql {
    SELECT group_concat(t1,'') FROM tbl1
  }
}

```

```

}
} {{this program is free software}}
do_test func-24.3 {
execsql {
    SELECT group_concat(t1,' ' || rowid || ' ') FROM tbl1
}
} {{this 2 program 3 is 4 free 5 software}}
do_test func-24.4 {
execsql {
    SELECT group_concat(NULL,t1) FROM tbl1
}
} {{}}
do_test func-24.5 {
execsql {
    SELECT group_concat(t1,NULL) FROM tbl1
}
} {thisprogramisfreesoftware}
do_test func-24.6 {
execsql {
    SELECT 'BEGIN-'||group_concat(t1) FROM tbl1
}
} {BEGIN-this,program,is,free,software}

# Ticket #3179: Make sure aggregate functions can take
many arguments.
# None of the built-in aggregates do this, so use the md5sum() from the
# test extensions.
#
unset -nocomplain midargs
set midargs {}
unset -nocomplain midres
set midres {}
unset -nocomplain result
for {set i 1} {$i<[sqlite3_limit db SQLITE_LIMIT_FUNCTION_ARG -1]} {incr i} {
append midargs './$i'
append midres /$i
set result [md5 \
    "this${midres}program${midres}is${midres}free${midres}software${midres}"]
set sql "SELECT md5sum(t1$midargs) FROM tbl1"
do_test func-24.7.$i {
    db eval $::sql
} $result
}

# Ticket #3806. If the initial string in a group_concat is an empty
# string, the separator that follows should still be present.
#
do_test func-24.8 {

```

```

execsql {
  SELECT group_concat(CASE t1 WHEN 'this' THEN " ELSE t1 END) FROM tbl1
}
} {,program,is,free,software}
do_test func-24.9 {
  execsql {
    SELECT group_concat(CASE WHEN t1!='software' THEN " ELSE t1 END) FROM tbl1
  }
} {,,,,software}

# Ticket #3923. Initial empty strings have a
# separator. But initial
# NULLs do not.
#
do_test func-24.10 {
  execsql {
    SELECT group_concat(CASE t1 WHEN 'this' THEN null ELSE t1 END) FROM tbl1
  }
} {program,is,free,software}
do_test func-24.11 {
  execsql {
    SELECT group_concat(CASE WHEN t1!='software' THEN null ELSE t1 END) FROM tbl1
  }
} {software}
do_test func-24.12 {
  execsql {
    SELECT group_concat(CASE t1 WHEN 'this' THEN "
                          WHEN 'program' THEN null ELSE t1 END) FROM tbl1
  }
} {,is,free,software}

# Use the test_isolation function to make sure that type conversions
# on function arguments do not effect subsequent arguments.
#
do_test func-25.1 {
  execsql {SELECT test_isolation(t1,t1) FROM tbl1}
} {this program is free software}

# Try to misuse the sqlite3_create_function() interface. Verify that
# errors are returned.
#
do_test func-26.1 {
  abuse_create_function db
} {}

# The previous test (func-26.1) registered a function with a very long
# function name that takes many arguments

```



```

SELECT
nullx_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_12345678
9_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_1
23456789_123456789_123456789_123456789_123456789_123456789_123456789_12345678a(0);
"
} {1 {no such function:
nullx_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_12345678
9_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_1
23456789_123456789_123456789_123456789_123456789_123456789_123456789_12345678a}}
do_test func-26.6 {
catchsql "
SELECT
nullx_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_12345678
9_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_1
23456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789a(0);
"
} {1 {no such function:
nullx_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_12345678
9_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789_1
23456789_123456789_123456789_123456789_123456789_123456789_123456789_123456789a}}

do_test
func-27.1 {
catchsql {SELECT coalesce()}
} {1 {wrong number of arguments to function coalesce()}}
do_test func-27.2 {
catchsql {SELECT coalesce(1)}
} {1 {wrong number of arguments to function coalesce()}}
do_test func-27.3 {
catchsql {SELECT coalesce(1,2)}
} {0 1}

# Ticket 2d401a94287b5
# Unknown function in a DEFAULT expression causes a segfault.
#
do_test func-28.1 {
db eval {
CREATE TABLE t28(x, y DEFAULT(nosuchfunc(1)));
}
catchsql {
INSERT INTO t28(x) VALUES(1);
}
} {1 {unknown function: nosuchfunc()}}

finish_test

Found in path(s):
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-

```

MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/test/func.test

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their contributions to the public domain.

in this code to the public domain. We make this dedication for the benefit

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-

MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/copyright.html

No license file was found, but licenses were detected in source scan.

<h3>Proprietary SQLite Extensions</h3>

<a href="copyright.html">public domain</a>. But there also exist

proprietary, licensed extensions to SQLite, written and maintained

You are welcomed to use SQLite in closed source, proprietary, and/or

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-

MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/support.html

No license file was found, but licenses were detected in source scan.

without a shared lock, other processes are free to modify the database

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-

MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/atomiccommit.html

No license file was found, but licenses were detected in source scan.

application code is free to use these routines as well, if desired.

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-

MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/34to35.html

No license file was found, but licenses were detected in source scan.

# 2006 October 1

#

# The author disclaims copyright to this source code. In place of

# a legal notice, here is a blessing:

#

# May you do good and not evil.

# May you find forgiveness for yourself and forgive others.

```

# May you share freely, never taking more than you give.
#
#*****
# This file implements regression tests for SQLite library. The
# focus of this script is testing the FTS1 module, and in particular
# the Porter stemmer.
#
# $Id: fts1porter.test,v 1.5 2006/10/03 19:37:37 drh Exp $
#

```

```

set testdir [file dirname $argv0]
source $testdir/tester.tcl

```

```

# If SQLITE_ENABLE_FTS1 is defined, omit this file.
ifcapable !fts1 {
  finish_test
  return
}

```

```

# Test data for the Porter stemmer. The first word of each line
# is the input. The second word is the desired output.
#
# This test data is taken from http://www.tartarus.org/martin/PorterStemmer/
#

```

```

There is no claim of copyright made on that page, but you should
# probably contact the author (Martin Porter - the inventor of the
# Porter Stemmer algorithm) if you want to use this test data in a
# commercial product of some kind. The stemmer code in FTS1 is a
# complete rewrite from scratch based on the algorithm specification
# and does not contain any code under copyright.
#

```

```

set porter_test_data {
  a          a
  aaron      aaron
  abaissiez  abaissiez
  abandon    abandon
  abandoned  abandon
  abase      abas
  abash      abash
  abate      abat
  abated     abat
  abatement  abat
  abatements abat
  abates     abat
  abbess     abbess
  abbey      abbei
  abbeys     abbei
  abominable abbomin

```



abbot	abbot
abbots	abbot
abbreviated	
abbrevi	
abed	ab
abel	abel
aberga	aberga
abergavenny	abergavenni
abet	abet
abetting	abet
abhominable	abhomin
abhor	abhor
abhorr	abhorr
abhorred	abhor
abhorring	abhor
abhors	abhor
abhorson	abhorson
abide	abid
abides	abid
abilities	abil
ability	abil
abject	abject
abjectly	abjectli
abjects	abject
abjur	abjur
abjure	abjur
able	abl
abler	abler
aboard	aboard
abode	abod
aboded	abod
abodements	abod
aboding	abod
abominable	abomin
abominably	abomin
abominations	
abomin	
abortive	abort
abortives	abort
abound	abound
abounding	abound
about	about
above	abov
abr	abr
abraham	abraham
abram	abram
abreast	abreast
abridg	abridg

abridge	abridg
abridged	abridg
abridgment	abridg
abroach	abroach
abroad	abroad
abrogate	abrog
abrook	abrook
abrupt	abrupt
abruption	abrupt
abruptly	abruptli
absence	absenc
absent	absent
absey	absei
absolute	absolut
absolutely	absolut
absolv	absolv
absolver	absolv
abstains	abstain
abstemious	abstemi
abstinence	abstin
abstract	abstract
absurd	absurd
absyrtus	absyrtu
abundance	abund
abundant	abund
abundantly	abundantli
abus	abu
abuse	abus
abused	abus
abuser	abus
abuses	abus
abusing	abus
abutting	abut
aby	abi
abysm	abysm
ac	ac
academe	academ
academes	academ
accent	accent
accents	accent
accept	accept
acceptable	accept
acceptance	accept
accepted	accept
accepts	accept
access	access
accessary	accessari
accessible	access

accidence	accid
accident	accid
accidental	accident
accidentally	
accident	
accidents	accid
accite	accit
accited	accit
accites	accit
acclamations	acclam
accommodate	accommod
accommodated	accommod
accommodation	accommod
accommodations	accommod
accommodo	accommodo
accompanied	acompani
accompany	acompani
accompanying	acompani
accomplices	accomplic
accomplish	accomplish
accomplished	accomplish
accomplishing	accomplish
accomplishment	accomplish
acompt	acompt
accord	accord
accordant	accord
accorded	accord
accordeth	accordeth
according	accord
accordingly	accordingli
accords	accord
accost	accost
accosted	accost
account	account
accountant	
account	
accounted	account
accounts	account
accoutred	accoutr
accoutrement	accoutr
accoutrements	accoutr
accrue	accru
accumulate	accumul
accumulated	accumul
accumulation	accumul
accurs	accur
accursed	accurs
accurst	accurst

accus	accu
accusation	accus
accusations	accus
accusative	accus
accusativo	accusativo
accuse	accus
accused	accus
accuser	accus
accusers	accus
accuses	accus
accuseth	accuseth
accusing	accus
accustom	accustom
accustomed	accustom
ace	ac
acerb	acerb
ache	ach
acheron	acheron
aches	
ach	
achiev	achiev
achieve	achiev
achieved	achiev
achievement	achiev
achievements	achiev
achiever	achiev
achieves	achiev
achieving	achiev
achilles	achil
aching	ach
achitophel	achitophel
acknowledg	acknowledg
acknowledge	acknowledg
acknowledged	acknowledg
acknowledgment	acknowledg
acknown	acknown
acold	acold
aconitum	aconitum
acordo	acordo
acorn	acorn
acquaint	acquaint
acquaintance	acquaint
acquainted	acquaint
acquaints	acquaint
acquir	acquir
acquire	acquir
acquisition	acquisit
acquit	acquit

acquittance	acquitt
acquittances	acquitt
acquitted	
acquit	
acre	acr
acres	acr
across	across
act	act
actaeon	actaeon
acted	act
acting	act
action	action
actions	action
actium	actium
active	activ
actively	activ
activity	activ
actor	actor
actors	actor
acts	act
actual	actual
acture	actur
acute	acut
acutely	acut
ad	ad
adage	adag
adallas	adalla
adam	adam
adamant	adam
add	add
added	ad
adder	adder
adders	adder
addeth	addeth
addict	addict
addicted	addict
addiction	addict
adding	ad
addition	addit
additions	addit
addle	addl
address	address
addressing	address
addrest	addrest
adds	add
adhere	adher
adheres	adher
adieu	adieu

adieux	adieu
adjacent	adjac
adjoin	adjoin
adjoining	adjoin
adjourn	adjourn
adjudg	adjudg
adjudged	adjudg
adjunct	adjunct
administer	administ
administration	administr
admir	admir
admirable	admir
admiral	admir
admiration	admir
admire	admir
admired	admir
admirer	admir
admiring	admir
admiringly	admiringli
admission	
admiss	
admit	admit
admits	admit
admittance	admitt
admitted	admit
admitting	admit
admonish	admonish
admonishing	admonish
admonishment	admonish
admonishments	admonish
admonition	admonit
ado	ado
adonis	adoni
adopt	adopt
adopted	adopt
adoptedly	adoptedli
adoption	adopt
adoptious	adopti
adopts	adopt
ador	ador
adoration	ador
adorations	ador
adore	ador
adorer	ador
adores	ador
adorest	adorest
adoreth	adoreth
adoring	ador

adorn	adorn
adorned	adorn
adornings	adorn
adornment	adorn
adorns	
adorn	
adown	adown
adramadio	adramadio
adrian	adrian
adriana	adriana
adriano	adriano
adriatic	adriatic
adsum	adsum
adulation	adul
adulterate	adulter
adulterates	adulter
adulterers	adulter
adulteress	adulteress
adulteries	adulteri
adulterous	adulter
adultery	adulteri
adultress	adultress
advanc	advanc
advance	advanc
advanced	advanc
advancement	advanc
advancements	advanc
advances	advanc
advancing	advanc
advantage	advantag
advantageable	advantag
advantaged	advantag
advantageous	advantag
advantages	advantag
advantaging	advantag
advent	
advent	
adventur	adventur
adventure	adventur
adventures	adventur
adventuring	adventur
adventurous	adventur
adventurously	adventur
adversaries	adversari
adversary	adversari
adverse	advers
adversely	advers
adversities	advers

adversity	advers
advertis	adverti
advertise	advertis
advertised	advertis
advertisement	advertis
advertising	advertis
advice	advic
advis	advi
advise	advis
advised	advis
advisedly	advisedli
advises	advis
advisings	advis
advocate	advoc
advocation	advoc
aeacida	aeacida
aeacides	aeacid
aedile	aedil
aediles	aedil
aegeon	
	aegeon
aegion	aegion
aegles	aegl
aemelia	aemelia
aemilia	aemilia
aemilius	aemiliu
aeneas	aenea
aeolus	aeolu
aer	aer
aerial	aerial
aery	aeri
aesculapius	aesculapiu
aeson	aeson
aesop	aesop
aetna	aetna
afar	afar
afear	afear
afeard	afeard
affability	affabl
affable	affabl
affair	affair
affaire	affair
affairs	affair
affect	affect
affectation	affect
affectations	affect
affected	affect
affectedly	affectedli



affecteth	affecteth
affecting	affect
affection	affect
affectionate	
affection	
affectionately	affection
affections	affect
affects	affect
affeer	affeer
affienc	affienc
affiance	affienc
affianced	affienc
affied	affi
affin	affin
affined	affin
affinity	affin
affirm	affirm
affirmation	affirm
affirmatives	affirm
afflict	afflict
afflicted	afflict
affliction	afflict
afflictions	afflict
afflicts	afflict
afford	afford
affordeth	affordeth
affords	afford
affray	affrai
affright	affright
affrighted	affright
affrights	affright
affront	affront
affronted	affront
affy	affi
afield	afield
afire	
afir	
afloat	afloat
afoot	afoot
afore	afor
aforehand	aforehand
aforesaid	aforesaid
afraid	afraid
afresh	afresh
afric	afric
africa	africa
african	african
afront	afront

after	after
afternoon	afternoon
afterward	afterward
afterwards	afterward
ag	ag
again	again
against	against
agamemmon	agamemmon
agamemnon	agamemnon
agate	agat
agaz	agaz
age	ag
aged	ag
agenor	agenor
agent	agent
agents	agent
ages	ag
aggravate	aggrav
aggrief	aggrief
agile	
agil	
agincourt	agincourt
agitation	agit
aglet	aglet
agnize	agniz
ago	ago
agone	agon
agony	agoni
agree	agre
agreed	agre
agreeing	agre
agreement	agreement
agrees	agre
agrippa	agrippa
aground	aground
ague	agu
aguecheek	aguecheek
agued	agu
agueface	aguefac
agues	agu
ah	ah
aha	aha
ahungry	ahungri
ai	ai
aialvolio	aialvolio
aiaria	aiaria
aid	aid
aidance	aidanc

aidant	aidant
aided	aid
aiding	aid
aidless	aidless
aids	aid
ail	ail
aim	aim
aimed	aim
aimest	aimest
aiming	aim
aims	aim
ainsi	ainsi
aio	aio
air	air
aired	air
airless	airless
airs	air
airy	airi
ajax	ajax
akilling	akil
al	al
alabaster	alabast
alack	alack
alacrity	alacr
alarbus	alarbu
alarm	alarm
alarms	alarm
alarum	alarum
alarums	alarum
alas	ala
alb	alb
alban	alban
albans	alban
albany	albani
albeit	albeit
albion	albion
alchemist	alchemist
alchemy	
alchemi	
alcibiades	alcibiad
alcides	alcid
alder	alder
alderman	alderman
aldermen	aldermen
ale	al
alecto	alecto
alehouse	alehous
alehouses	alehous

alencon	alencon
alengon	alengon
aleppo	aleppo
ales	al
alewife	alewif
alexander	alexand
alexanders	alexand
alexandria	alexandria
alexandrian	alexandrian
alexas	alexa
alias	alia
alice	alic
alien	alien
aliena	aliena
alight	alight
alighted	alight
alights	alight
aliis	alii
alike	alik
alisander	alisand
alive	aliv
all	all
alla	alla
allay	allai
allayed	allai
allaying	allai
allayment	allay
allayments	allay
allays	allai
allegation	alleg
allegations	alleg
allege	alleg
alleged	alleg
allegiance	allegi
allegiant	allegi
alley	allei
alleys	allei
allhallowmas	allhallowma
alliance	allianc
allicholy	allicholi
allied	alli
allies	alli
alligant	allig
alligator	allig
allons	allon
allot	allot
allots	allot
allotted	allot

allottery	allotteri
allow	allow
allowance	allow
allowed	allow
allowing	allow
allows	
allow	
allur	allur
allure	allur
allurement	allur
alluring	allur
allusion	allus
ally	alli
allycholly	allycholli
almain	almain
almanac	almanac
almanack	almanack
almanacs	almanac
almighty	almighti
almond	almond
almost	almost
alms	alm
almsman	almsman
aloes	alo
aloft	aloft
alone	alon
along	along
alonso	alonso
aloof	aloof
aloud	aloud
alphabet	alphabet
alphabetical	alphabet
alphonso	alphonso
alps	alp
already	alreadi
also	also
alt	alt
altar	altar
altars	
	altar
alter	alter
alteration	alter
altered	alter
alters	alter
althaea	althaea
although	although
altitude	altitud
altogether	altogeth

alton	alton
alway	alwai
always	alwai
am	am
amaimon	amaimon
amain	amain
amaking	amak
amamon	amamon
amaz	amaz
amaze	amaz
amazed	amaz
amazedly	amazedli
amazedness	amazed
amazement	amaz
amazes	amaz
amazeth	amazeth
amazing	amaz
amazon	amazon
amazonian	amazonian
amazons	amazon
ambassador	ambassador
ambassadors	ambassador
amber	
amber	
ambiguides	ambiguid
ambiguities	ambigu
ambiguous	ambigu
ambition	ambit
ambitions	ambit
ambitious	ambiti
ambitiously	ambiti
amble	ambl
ambled	ambl
ambles	ambl
ambling	ambl
ambo	ambo
ambuscadoes	ambuscado
ambush	ambush
amen	amen
amend	amend
amended	amend
amendment	amend
amends	amend
amerce	amerc
america	america
ames	am
amiable	amiabl
amid	amid

amidst	amidst
amiens	amien
amis	ami
amiss	amiss
amities	amiti
amity	amiti
amnipotent	amnipot
among	among
amongst	amongst
amorous	amor
amorously	amor
amort	amort
amount	amount
amounts	amount
amour	amour
amphimacus	amphimacu
ample	ampl
ampler	ampler
amplest	amplest
amplified	amplifi
amplify	amplifi
amply	ampli
amphill	amphil
amurath	amurath
amyntas	amynta
an	an
anatomiz	anatomiz
anatomize	anatom
anatomy	anatomi
ancestor	ancestor
ancestors	ancestor
ancestry	ancestri
anchises	anchis
anchor	anchor
anchorage	anchorag
anchored	anchor
anchoring	anchor
anchors	anchor
anchovies	anchovi
ancient	ancient
ancientry	ancientri
ancients	ancient
ancus	ancu
and	and
andirons	andiron
andpholus	andpholu
andren	andren
andrew	andrew

andromache	andromach
andronici	andronici
andronicus	andronicu
anew	anew
ang	ang
angel	angel
angelica	angelica
angelical	angel
angelo	angelo
angels	angel
anger	anger
angerly	angerli
angers	anger
anges	ang
angiers	angier
angl	angl
anglais	anglai
angle	angl
angler	angler
angleterre	angleterr
angliae	anglia
angling	angl
anglish	anglish
angrily	angrili
angry	angri
anguish	anguish
angus	angu
animal	anim
animals	anim
animis	animi
anjou	anjou
ankle	ankl
anna	anna
annals	annal
anne	ann
annex	annex
annexed	annex
annexions	annexion
annexment	annex
annothanize	annothan
announces	announc
annoy	annoi
annoyance	annoy
annoying	annoi
annual	annual
anoint	anoint
anointed	anoint



anon	anon
another	anoth
anselmo	anselmo
answer	answer
answerable	answer
answered	answer
answerest	answerest
answering	answer
answers	answer
ant	ant
ante	ant
antenor	antenor
antenorides	antenorid
anteroom	anteroom
anthem	anthem
anthems	anthem
anthony	anthoni
anthropophagi	anthropophagi
anthropophaginian	anthropophaginian
antiates	antiat
antic	antic
anticipate	anticip
anticipates	anticip
anticipatest	anticipatest
anticipating	anticip
anticipation	anticip
antick	antick
anticly	anticli
antics	antic
antidote	antidot
antidotes	antidot
antigonus	antigonu
antiopa	antiopa
antipathy	antipathi
antipholus	antipholu
antipholuses	antipholus
antipodes	
antipod	
antiquary	antiquari
antique	antiqu
antiquity	antiqu
antium	antium
antoniad	antoniad
antonio	antonio
antonius	antoni
antony	antoni
antres	antr
anvil	anvil

any	ani
anybody	anybodi
anyone	anyon
anything	anyth
anywhere	anywher
ap	ap
apace	apac
apart	apart
apartment	apart
apartments	apart
ape	ap
apemantus	apemantu
apennines	apennin
apes	ap
apiece	apiec
apish	apish
apollinem	apollinem
apollo	apollo
apollodorus	apollodoru
apology	apolog
apoplex	apoplex
apoplexy	
	apoplexi
apostle	apostl
apostles	apostl
apostrophas	apostropha
apoth	apoth
apothecary	apothecari
appal	appal
appall	appal
appalled	appal
appals	appal
apparel	apparel
apparell	apparel
apparelled	apparel
apparent	appar
apparently	appar
apparition	apparit
apparitions	apparit
appeach	appeach
appeal	appeal
appeals	appeal
appear	appear
appearance	appear
appeared	appear
appeareth	appeareth
appearing	appear
appears	appear

appeas	appea
appease	appeas
appeased	appeas
appellant	appel
appele	appel
appellee	appele
appeles	appel
appelez	appelez
appellant	appel
appellants	appel
appelons	appelon
appendix	appendix
apperil	apperil
appertain	appertain
appertaining	appertain
appertainings	appertain
appertains	appertain
appertinent	appertin
appertinents	appertin
appetite	appetit
appetites	appetit
applaud	applaud
applauded	applaud
applauding	applaud
applause	applaus
applauses	applaus
apple	appl
apples	appl
appletart	appletart
appliance	applianc
appliances	applianc
applications	applic
applied	appli
applies	appli
apply	appli
applying	
appli	
appoint	appoint
appointed	appoint
appointment	appoint
appointments	appoint
appoints	appoint
apprehend	apprehend
apprehended	apprehend
apprehends	apprehend
apprehension	apprehens
apprehensions	apprehens

apprehensive	apprehens
apprendre	apprendr
apprenne	apprenn
apprenticehood	apprenticehood
appris	appri
approach	approach
approachers	approach
approaches	approach
approacheth	approacheth
approaching	approach
approbation	approb
aproof	aproof
appropriation	appropri
approv	approv
approve	approv
approved	approv
approvers	approv
approves	approv
appurtenance	appurten
appurtenances	
appurten	
apricocks	apricock
april	april
apron	apron
aprons	apron
apt	apt
apter	apter
aptest	aptest
aptly	aptli
aptness	apt
aqua	aqua
aquilon	aquilon
aquitaine	aquitain
arabia	arabia
arabian	arabian
araise	arais
arbitrate	arbitr
arbitrating	arbitr
arbitrator	arbitr
arbitrement	arbitr
arbors	arbor
arbour	arbour
arc	arc
arch	arch
archbishop	archbishop
archbishopric	archbishopr
archdeacon	archdeacon
arched	arch

archelaus	archelau
archer	archer
archers	archer
archery	
archeri	
archibald	archibald
archidamus	archidamu
architect	architect
arcu	arcu
arde	ard
arden	arden
ardent	ardent
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aurora	aurora
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authorities	author
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authorized	author
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authors	author
autolycus	autolycu
autre	autr
autumn	autumn
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babe	babe
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ballads	ballad
ballast	ballast
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barley	barlei
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barnardine	barnardin
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batters	batter
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battle	battl
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belch	belch
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beldame	beldam
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belgia	belgia
belie	beli
belied	beli
belief	belief
beliest	beliest
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belle	bell
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belonging	belong
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beloved	belov
beloving	belov
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beray	berai
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betroths	betroth
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bettre	bettr
between	between

betwixt	betwixt
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bevis	bevi
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bewitchment	bewitch
bewray	bewrai
beyond	beyond
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bianco	bianco
bias	bia
bibble	bibbl
bickerings	bicker
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bidden	bidden
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bidly	bidli
bide	bide
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bier	bier
bifold	bifold
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bigamy	bigami
biggen	biggen
bigger	
bigger	
bigness	big
bigot	bigot
bilberry	bilberri

bilbo	bilbo
bilboes	bilbo
bilbow	bilbow
bill	bill
billeted	billet
billets	billet
billiards	billiard
billing	bill
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bills	bill
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bindeth	bindeth
binding	bind
binds	bind
biondello	biondello
birch	birch
bird	bird
birding	bird
birdlime	birdlim
birds	bird
birnam	birnam
birth	birth
birthday	birthdai
birthdom	birthdom
birthplace	birthplac
birthright	birthright
birthrights	birthright
births	birth
bis	bi
biscuit	biscuit
bishop	bishop
bishops	bishop
bisson	bisson
bit	bit
bitch	bitch
bite	bite
biter	biter
bites	bite
biting	bite
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bitter	bitter
bitterest	bitterest
bitterly	bitterli
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blab	blab
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blabbing	blab
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black	black
blackamoor	blackamoor
blackamoors	blackamoor
blackberries	blackberri
blackberry	blackberri
blacker	blacker
blackest	blackest
blackfriars	blackfriar
blackheath	blackheath
blackmere	blackmer
blackness	black
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blanca	blanca
blanch	blanch
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blasphemous	blasphem
blasphemy	blasphemi
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blastments	blastment
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blaze	blaze
blazes	blaze
blazing	blaze

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blindly	blindli
blindness	blind
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bloodhound	bloodhound
bloodied	bloodi
bloodier	bloodier
bloodiest	bloodiest
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bloodless	bloodless
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bloodstained	bloodstain
bloody	bloodi
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blooms	bloom
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bluecaps	bluecap
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boastful	boast
boasting	
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boats	boat
boatswain	boatswain
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bobb	bobb
boblibindo	boblibindo
bobtail	bobtail
bocchus	bocchu
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boggler	boggler
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boils	boil
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boisterous	boister
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bondmaid	bondmaid
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bone	bone
boneless	boneless
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bonfire	bonfir
bonfires	bonfir
bonjour	bonjour
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bonny	bonni
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bonto	bonto
bonville	bonvil
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bookish	bookish
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boor	boor
boorish	boorish
boors	boor
boot	boot
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booty	booti
bor	bor
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borachio	borachio
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boroughs	borough
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borrower	borrow
borrowing	borrow

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bosky	boski
bosom	bosom
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bosworth	bosworth
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bounties	bounti
bountiful	bounti
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bourbier	bourbier
bourbon	bourbon
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brethren	brethren
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brotherhood	brotherhood
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brotherly	brotherli
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broths	broth
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brows	brow
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bubble	bubbl
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bubukles	bubukl
buck	buck
bucket	bucket
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bucking	buck
buckingham	buckingham
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bucklersbury	bucklersburi
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bulks	bulk
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bullcalf	bullcalf
bullen	bullen
bullens	bullen
bullet	bullet
bullets	bullet
bullocks	bullock
bulls	bull
bully	bulli
bulmer	bulmer
bulwark	bulwark
bulwarks	bulwark
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bump	bump
bumper	bumper
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bunch	bunch
bunches	bunch
bundle	bundl
bung	bung
bunghole	bunghol
bungle	bungl
bunting	bunt
buoy	buoi
bur	bur
burbolt	burbolt
burd	burd

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burdens	burden
burgh	burgh
burgher	burgher
burghers	burgher
burglary	burglari
burgomasters	burgomast
burgonet	burgonet
burgundy	burgundi
burial	burial
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burst	burst
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bursts	burst
burthen	burthen
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bury	huri
burying	huri
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bushels	bushel
bushes	bush
bushy	bushi
busied	busi
busily	busili
business	busin
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buskin	buskin
busky	buski

buss	buss
busses	buss
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bustling	bustl
busy	busi
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butterflies	butterfli
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butterwoman	butterwoman
buttery	butteri
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buttocks	buttock
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buttonhole	buttonhol
buttons	button
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butts	butt
buxom	buxom
buy	bui
buyer	buyer
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buys	bui
buzz	buzz
buzzard	buzzard
buzzards	buzzard
buzzers	buzzer
buzzing	buzz
by	by
bye	bye
byzantium	byzantium
c	c
ca	ca
cabbage	cabbag
cabileros	cabilero

cabin	cabin
cabins	cabin
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cables	cabl
cackling	cackl
cacodemon	cacodemon
caddis	caddi
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cadent	cadent
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cadwal	cadwal
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caelo	caelo
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caius	caiu
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calais	calai
calamities	calam
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calchas	calcha
calculate	calcul
calen	calen
calendar	calendar
calendars	calendar
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caliban	caliban
calibans	caliban
calipolis	calipoli
cality	caliti
caliver	caliv
call	call

callat	callat
called	call
callet	
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calling	call
calls	call
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calmest	calmest
calmly	calmli
calmness	calm
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calumniate	calumni
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calumnious	calumni
calumny	calumni
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calved	calv
calves	calv
calveskins	calveskin
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cambyses	cambys
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camping	camp
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canakin	canakin
canaries	canari
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cancelled	cancel
cancelling	cancel

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candied	candi
candle	candl
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candlesticks	candlestick
candy	candi
canidius	canidiu
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canker	canker
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capacities	capac
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capite	capit
capitol	capitol
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capocchia	capocchia
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capricious	caprici
caps	cap
capt	capt
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captainship	captainship
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captivate	captiv
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caraways	carawai
carbonado	carbonado
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cardinal	cardin
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cardmaker	cardmak
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careful	care
carefully	carefulli
careless	careless
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cares	care
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carlisle	carlisl
carlot	carlot
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carnation	carnat
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carriage	carriag
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casement	casement
casements	casement
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caskets	casket
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castalion	castalion
castaway	castawai
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caster	caster

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casual	casual
casually	casual
casualties	casualti
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cat	cat
cataian	cataian
catalogue	catalogu
cataplasm	cataplasm
cataracts	cataract
catarrhs	catarrh
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catechising	catechis
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catechize	catech
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caters	cater
caterwauling	caterwaul
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catesby	catesbi
cathedral	cathedr
catlike	catlik
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catlings	catl
cato	cato
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caucasus	caucasu
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cauf	cauf
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caused	caus
causeless	causeless
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causest	causest
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cautelous	cautel
cautels	cautel
cauterizing	cauter
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cautions	caution
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cavalery	cavaleri
cavaliers	cavali
cave	cave
cavern	cavern
caverns	cavern
caves	cave
caveto	caveto
caviary	caviari
cavil	cavil
cavilling	cavil
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faction	faction
factionary	factionari
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fairwell	fairwel
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falcon	falcon
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farm	farm
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fico	fico
fiction	fiction
fiddle	fiddl
fiddler	fiddler
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fitly	fitli
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flashes	flash
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flatness	flat
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font	font
fontibell	fontibel
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foolish	foolish
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footboy	footboi
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forbear	forbear
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frets	fret
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frowningly	frowningli
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fruitful	fruit
fruitfully	fruitfulli
fruitfulness	fruit
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fruits	fruit
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frustrate	frustrat
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fubb	fubb
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fulsome	fulsom
fulvia	fulvia
fum	fum
fumble	fumbl
fumbles	fumbl
fumblest	fumblest
fumbling	fumbl
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fumiter	fumit
fumitory	fumitori
fun	fun
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funeral	funer
funerals	funer
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furbish	furbish
furies	furi
furious	furiou
furlongs	furlong
furnace	furnac
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furnish	furnish
furnished	furnish
furnishings	furnish
furniture	furnitur
furnival	furniv
furor	furor
furr	furr
furrow	furrow
furrowed	furrow
furrows	furrow
furth	furth
further	further

furtherance	further
furtherer	further
furthermore	furthermor
furthest	furthest
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gainer	gainer
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gainsaid	gainsaid
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gallimaufry	gallimaufri
galling	gall
gallons	gallon
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galloway	gallowai
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gambol	gambol
gambold	gambold
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gaming	game
gammon	gammon
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gan	gan
gangren	gangren
ganymede	ganymed
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gaoler	gaoler
gaolers	gaoler
gaols	gaol
gap	gap
gape	gape
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garb	garb
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garboils	garboil
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gardon	gardon
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gargrave	gargrav
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garrisons	garrison
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garterd	garterd
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gent	gent
gentilhomme	gentilhomm
gentility	gentil
gentle	gentl
gentlefolks	gentlefolk
gentleman	gentleman
gentlemanlike	gentlemanlik
gentlemen	gentlemen
gentleness	gentl
gentler	gentler
gentles	gentl
gentlest	gentlest
gentlewoman	gentlewoman
gentlewomen	gentlewomen
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george	georg
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ghastly	ghastli
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giantess	giantess
giantlike	giantlik
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gimmers	gimmer
gin	gin
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ginger	ginger
gingerbread	gingerbread

gingerly	gingerli
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gins	gin
gioucestershire	gioucestershir
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giver	giver
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giving	give
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gladded	glad
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glamis	glami
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glanders	glander
glansdale	glansdal
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glassy	glassi
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glories	glori
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glou	glou
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gloucester	gloucest
gloucestershire	gloucestershir
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glow	glow
glowed	glow
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glowworm	glowworm
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goads	goad
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goatish	goatish
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goblins	goblin
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goddess	goddess
goddesses	goddess
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godfather	godfath
godfathers	
godfath	
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godlike	godlik
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godmother	godmoth
gods	god
godson	godson
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goest	goest
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goffe	goff
gogs	gog
going	go
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goldsmith	goldsmith
goldsmiths	goldsmith
golgotha	golgotha
goliases	goliias
goliath	goliath
gon	gon
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goodlier	goodlier
goodliest	goodliest
goodly	goodli
goodman	goodman
goodness	good
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goodrig	goodrig
goods	good
goodwife	goodwif
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goodyear	goodyear
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goose	goos
gooseberry	gooseberri
goosequills	goosequil
goot	goot
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gorbellied	gorbelli
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gordian	gordian
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gospel	gospel
gospels	gospel
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gossips	gossip
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govern	govern
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gramercies	gramerci
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grammar	grammar
grand	grand
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grandame	grandam
grandchild	grandchild
grande	grand
grandeur	grandeur
grandfather	grandfath
grandjurors	grandjuror
grandmother	
grandmoth	
grandpre	grandpr
grandsir	grandsir
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grapes	grape
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grass	grass
grasshoppers	grasshopp
grassy	grassi
grate	grate
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grateful	grate
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gratiano	gratiano
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grav	grav
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graves	grave
gravest	gravest
gravestone	graveston
gravities	graviti
gravity	graviti
gravy	gravi
gray	grai
graymalkin	graymalkin
graz	graz
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grease	greas
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greeks	greek
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greens	green
greensleeves	greensleev
greenwich	greenwich
greenwood	greenwood
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greg	greg
gregory	gregori
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greybeard	greybeard
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greyhound	greyhound
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grievous	grievou
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griffin	griffin
griffith	griffith
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groping	grope
gros	gro
gross	gross
grosser	grosser
grossly	grossli
grossness	gross
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groundlings	groundl
grounds	ground
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grovelling	grovel
groves	grove
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groweth	groweth
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grudge	grudg
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grumble	grumbl
grumblest	grumblest
grumbling	grumbl
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gualtier	gualtier
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guardage	guardag
guardant	guardant
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guardian	guardian
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guardsman	guardsman
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gudgeon	gudgeon
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guerra	guerra
guess	guess
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guessingly	guessingli
guest	guest
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guidon	guidon
guienne	guienn
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guilders	guilder
guildford	guildford
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guile	guil
guiled	guil
guileful	guil
guilfords	guilford
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guiltily	guiltili
guiltiness	guilti
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gunpowder	gunpowd
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gust	gust
gusts	gust
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guts	gut
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guy	gui
guynes	guyn
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gypsy	gypsi
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haberdasher	haberdash
habiliment	habili
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hail	hail
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hailstone	hailston
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hairless	hairless
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hairy	hairi
hal	hal
halberd	halberd
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half	half
halfcan	halfcan
halfpence	halfpenc
halfpenny	halfpenni
halfpennyworth	halfpennyworth
halfway	halfwai
halidom	halidom

hall	hall
halloa	halloa
halloing	hallo
hallond	hallond
halloo	halloo
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hallow	hallow
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hallowmas	hallowma
hallown	hallown
hals	hal
halt	halt
halter	halter
halters	halter
halting	halt
halts	halt
halves	halv
ham	ham
hames	hame
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hamstring	hamstr
hand	hand
handed	hand
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handicraft	handicraft
handicraftsmen	handicraftsmen
handing	hand
handiwork	handiwork
handkercher	handkerch
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handsome	handsom
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handwriting	handwrit
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hang	hang
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harbinger	harbing
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hardocks	hardock

hardy	hardi
hare	hare
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hares	hare
harfleur	harfleur
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harlot	harlot
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harvest	harvest
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hastings	hast
hasty	hasti
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haughtiness	haughti
haughty	haughti
haunch	haunch
haunches	haunch
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haunts	haunt
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hautboys	hautboi
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havior	havior
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headsman	headsman
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heals	heal
health	health
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healths	health
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healthy	healthi
heap	heap
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hearest	hearest
heareth	heareth
hearing	hear
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hearkens	hearken
hears	hear
hearsay	hearsai
hearse	hears
hearsed	hears
hearst	hearst
heart	heart
heartache	heartach
heartbreak	heartbreak
heartbreaking	heartbreak
hearted	heart



hearten	hearten
hearth	hearth
hearths	hearth
heartily	heartili
heartiness	hearti
heartless	heartless
heartlings	heartl
heartly	heartli
hearts	heart
heartsick	heartsick
heartstrings	heartstr
heartly	hearti
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heated	heat
heath	heath
heathen	heathen
heathenish	heathenish
heating	heat
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heauties	heauti
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lived	live
livelier	liveri
livelihood	livelihood
livelong	livelong
lively	live
liver	liver
liveries	liveri
livers	liver
livery	liveri
lives	live
livest	livest
liveth	liveth
livia	livia
living	live
livings	live
lizard	lizard
lizards	lizard
ll	ll
lll	lll
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lnd	lnd
lo	lo
loa	loa
loach	loach
load	load
loaden	loaden
loading	load
loads	load
loaf	loaf
loam	loam
loan	loan
loath	loath
loathe	loath
loathed	loath
loather	loather
loathes	loath
loathing	loath
loathly	loathli
loathness	loath
loathsome	loathsom
loathsomeness	loathsom
loathsomest	loathsomest
loaves	loav

lob	lob
lobbies	lobbi
lobby	lobbi
local	local
lochaber	lochab
lock	lock
locked	lock
locking	lock
lockram	lockram
locks	lock
locusts	locust
lode	lode
lodg	lodg
lodge	lodg
lodged	lodg
lodgers	lodger
lodges	lodg
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lodovico	lodovico
lodowick	lodowick
lofty	lofti
log	log
logger	logger
loggerhead	loggerhead
loggerheads	loggerhead
loggets	logget
logic	logic
logs	log
loins	loin
loiter	loiter
loiterer	loiter
loiterers	loiter
loitering	loiter
lolling	loll
lolls	loll
lombardy	lombardi
london	london
londoners	london
lone	lone
loneliness	
loneli	
lonely	lone
long	long
longaville	longavil
longboat	longboat
longed	long
longer	longer

longest	longest
longeth	longeth
longing	long
longings	long
longly	longli
longs	long
longtail	longtail
loo	loo
loof	loof
look	look
looked	look
looker	looker
lookers	looker
lookest	lookest
looking	look
looks	look
loon	loon
loop	loop
loos	loo
loose	loos
loosed	loos
loosely	loos
loosen	loosen
loosing	loos
lop	lop
lopp	lopp
loquitur	loquitur
lord	lord
lorded	lord
lording	lord
lordings	lord
lordliness	lordli
lordly	lordli
lords	lord
lordship	lordship
lordships	lordship
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lorn	lorn
lorraine	lorrain
lorship	lorship
los	lo
lose	lose
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losers	loser
loses	lose
losest	losest
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losing	lose
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losses	loss
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lot	lot
lots	lot
lott	lott
lottery	lotteri
loud	loud
louder	louder
loudly	loudli
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loureth	loureth
louring	lour
louse	lous
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lousy	lousi
lout	lout
louted	lout
louts	lout
louvre	louvr
lov	lov
love	love
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lovedst	lovedst
lovel	lovel
lovelier	loveli
loveliness	loveli
lovell	lovel
lovely	love
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loves	love
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loving	love
lovingly	lovingli
low	low
lowe	low
lower	lower
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lowing	low
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lowly	lowli
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lowness	low
loyal	loyal
loyally	loyal
loyalties	loyalti
loyalty	loyalti
lozel	lozel
lt	lt
lubber	lubber
lubberly	lubberli
luc	luc
luccicos	luccico
luce	luce
lucentio	lucentio
luces	luce
lucetta	lucetta
luciana	luciana
lucianus	lucianu
lucifer	lucif
lucifier	lucifi
lucilius	luciliu
lucina	lucina
lucio	lucio
lucius	luciu
luck	luck
luckier	luckier
luckiest	luckiest
luckily	luckili
luckless	luckless
lucky	lucki
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lucretia	lucretia
lucullius	luculliu
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lucy	luci
lud	lud
ludlow	ludlow
lug	lug
lugg	lugg
luggage	luggag
luke	luke
lukewarm	lukewarm
lull	lull
lulla	lulla
lullaby	lullabi
lulls	lull
lumbert	lumbert

lump	lump
lumpish	lumpish
luna	luna
lunacies	lunaci
lunacy	lunaci
lunatic	lunatic
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lunes	lune
lungs	lung
lupercal	luperc
lurch	lurch
lure	lure
lurk	lurk
lurketh	lurketh
lurking	
lurk	
lurks	lurk
luscious	luscious
lush	lush
lust	lust
lusted	lust
luster	luster
lustful	lust
lustier	lustier
lustiest	lustiest
lustig	lustig
lustihood	lustihood
lustily	lustily
lustre	lustre
lustrous	lustrous
lusts	lust
lusty	lust
lute	lute
lutes	lute
lutestring	lutestring
lutheran	lutheran
luxurious	luxuri
luxuriously	luxuri
luxury	luxuri
ly	ly
lycaonia	lycaonia
lycurguses	lycurgus
lydia	lydia
lye	lye
lyen	lyen
lying	ly
lym	lym
lymoges	

lymog	
lynn	lynn
lysander	lysand
m	m
ma	ma
maan	maan
mab	mab
macbeth	macbeth
maccabaeus	maccabaeu
macdonwald	macdonwald
macduff	macduff
mace	mace
macedon	macedon
maces	mace
machiavel	machiavel
machination	machin
machinations	machin
machine	machin
mack	mack
macmorris	macmorri
maculate	macul
maculation	macul
mad	mad
madam	madam
madame	madam
madams	madam
madcap	madcap
madded	mad
madding	mad
made	made
madeira	madeira
madly	madli
madman	
madman	
madmen	madmen
madness	mad
madonna	madonna
madrigals	madrig
mads	mad
maecenas	maecena
maggot	maggot
maggots	maggot
magic	magic
magical	magic
magician	magician
magistrate	magistr
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magnanimity	magnanim

magnanimous	magnanim
magni	magni
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magnificence	magnific
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magnus	magnu
mahomet	mahomet
mahu	mahu
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maidenheads	maidenhead
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maidenliest	maidenliest
maidenly	maidenli
maidens	maiden
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mailed	mail
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maims	maim
main	main
maincourse	maincours
maine	main
mainly	mainli
mainmast	mainmast
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maintains	maintain
maintenance	mainten
mais	mai
maison	maison
majestas	majesta
majestee	majeste
majestic	majest
majestical	majest
majestically	majest
majesties	majesti
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major	major



majority	major
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make	make
makeless	makeless
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makings	make
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maladies	maladi
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maledictions	maledict
malefactions	malefact
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malevolence	malevol
malevolent	malevol
malhecho	malhecho
malice	malic
malicious	malici
maliciously	malici
malign	
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malignancy	malign
malignant	malign
malignantly	malignantli
malkin	malkin
mall	mall
mallard	mallard
mallet	mallet
mallows	mallow
malmsey	malmsei
malt	malt
maltworms	maltworm
malvolio	malvolio
mamillius	mamilliu
mammering	mammer
mammet	mammet

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man	man
manacle	manacle
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manchus	manchu
mandate	mandate
mandragora	mandragora
mandrake	mandrake
mandrakes	mandrakes

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manet	manet
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manhoods	manhoods
manifest	manifest
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manifold	manifold
manifoldly	manifoldly
manka	manka
mankind	mankind
manlike	manlike
manly	manly
mann	mann
manna	manna
manner	manner
mannerly	mannerly
manners	manners
manningtree	manningtree
mannish	mannish
manor	manor
manors	manors
mans	man
mansion	

mansion	
mansionry	mansionri
mansions	mansion
manslaughter	manslaught
mantle	mantl
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mantua	mantua
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manual	manual
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map	map
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mar	mar
marble	marbl
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marcade	marcad
marcellus	marcellu
march	march
marches	march
marcheth	marcheth
marching	march
marchioness	marchio
marchpane	marchpan
marcians	marcian
marcius	marciu
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mardian	
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mare	mare
mares	mare
marg	marg
margarelon	margarelon
margaret	margaret
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margery	margeri
maria	maria
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maries	mari
marigold	marigold
mariner	marin
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maritime	maritim
marjoram	marjoram
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marketplace	marketplac
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markman	markman
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marle	marl
marmoset	marmoset
marquess	marquess
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marriage	marriag
marriages	marriag
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marrow	marrow
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marry	marri
marrying	marri
mars	mar
marseilles	marseil
marsh	marsh
marshal	marshal
marshalsea	marshalsea
marshalship	marshalship
mart	mart
marted	mart
martem	martem
martext	martext
martial	martial
martin	martin
martino	martino
martius	martiu
martlemas	martlema
martlet	martlet
marts	mart
martyr	martyr
martyrs	martyr
marullus	marullu

marv	marv
marvel	marvel
marvell	marvel
marvellous	marvel
marvellously	marvel
marvels	marvel
mary	mari
mas	ma
masculine	masculin
masham	masham
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masker	masker
maskers	masker
masking	mask
masks	mask
mason	mason
masonry	masonri
masons	mason
masque	masqu
masquers	masquer
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mass	mass
massacre	massacr
massacres	massacr
masses	mass
massy	massi
mast	mast
master	master
master	master
masterdom	masterdom
masterest	masterest
masterless	masterless
masterly	masterli
masterpiece	masterpiec
masters	master
mastership	mastership
mastic	mastic
mastiff	mastiff
mastiffs	mastiff
masts	mast
match	match
matches	match
matcheth	matcheth
matching	match
matchless	matchless
mate	mate

mated	mate
mater	mater
material	materi
mates	mate
mathematics	mathemat
matin	matin
matron	matron
matrons	matron
matter	matter
matters	matter
matthew	matthew
mattock	mattock
mattress	mattress
mature	matur
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maud	maud
maudlin	maudlin
maugre	maugr
maul	maul
maund	maund
mauri	mauri
mauritania	mauritania
mauvais	mauvai
maw	maw
maws	maw
maxim	maxim
may	mai
mayday	maydai
mayest	mayest
mayor	mayor
maypole	maypol
mayst	mayst
maz	maz
maze	maze
mazed	maze
mazes	maze
mazzard	mazzard
me	me
meacock	meacock
mead	mead
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meagre	meagr
meal	meal
meals	meal
mealy	meali

mean	mean
meanders	meander
meaner	meaner
meanest	meanest
meaneth	meaneth
meaning	mean
meanings	mean
meanly	meanli
means	mean
meant	meant
meantime	meantim
meanwhile	meanwhil
measles	measl
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measurable	measur
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measureless	measureless
measures	measur
measuring	measur
meat	meat
meats	meat
mechanic	mechan
mechanical	mechan
mechanicals	mechan
mechanics	mechan
mechante	mechant
med	med
medal	medal
meddle	meddl
meddler	meddler
meddling	
meddl	
mede	mede
medea	medea
media	media
mediation	mediat
mediators	mediat
medice	medic
medicinal	medicin
medicine	medicin
medicines	medicin
meditate	medit
meditates	medit
meditating	medit
meditation	medit
meditations	medit

mediterranean	mediterranean
mediterraneum	mediterraneum
medlar	medlar
medlars	medlar
meed	meed
meeds	meed
meek	meek
meekly	meekli
meekness	meek
meet	meet
meeter	meeter
meetest	meetest
meeting	meet
meetings	meet
meetly	meetli
meetness	meet
meets	meet

meg	meg
mehercle	mehercl
meilleur	meilleur
meiny	meini
meisen	meisen
melancholies	melancholi
melancholy	melancholi
melford	melford
mell	mell
mellifluous	melliflu
mellow	mellow
mellowing	mellow
melodious	melodi
melody	melodi
melt	melt
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melteth	melteth
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melts	melt
melun	melun
member	member
members	member
memento	memento
memorable	memor
memorandums	memorandum
memorial	memori
memorials	memori
memories	memori
memoriz	memoriz
memorize	memor



memory	memori
memphis	
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men	men
menac	menac
menace	menac
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menaphon	menaphon
menas	mena
mend	mend
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mends	mend
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menelaus	menelau
menenius	meneniu
mental	mental
menteith	menteith
mention	mention
mentis	menti
menton	menton
mephostophilus	mephostophilu
mer	mer
mercatante	mercatant
mercatio	mercatio
mercenaries	mercenari
mercenary	mercenari
mercer	mercer
merchandise	merchandis
merchandized	merchand
merchant	merchant
merchants	merchant
mercies	merci
merciful	merci
mercifully	mercifulli
merciless	merciless
mercurial	mercuri
mercuries	mercuri
mercury	mercuri
mercutio	mercutio
mercy	merci
mere	mere
mered	mere
merely	mere
merest	merest
meridian	meridian
merit	merit

merited	merit
meritorious	meritori
merits	merit
merlin	merlin
mermaid	mermaid
mermaids	mermaid
merops	merop
merrier	merrier
merriest	merriest
merrily	merrili
merriman	merriman
merriment	merriment
merriments	merriment
merriness	merri
merry	merri
mervailous	mervail
mes	me
mesh	mesh
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mesopotamia	mesopotamia
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messages	messag
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metamorphoses	metamorphos
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meteor	meteor
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metheglins	metheglin
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method	

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methoughts	methought
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mette	mett
mettle	mettl
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meus	meu
mew	mew
mewed	mew
mewling	mewl
mexico	mexico
mi	mi
mice	mice
michael	michael
michaelmas	michaelma
micher	micher
miching	mich
mickle	mickl
microcosm	microcosm
mid	mid
midas	mida
middest	middest
middle	middl
middleham	middleham
midnight	midnight
midriff	midriff
midst	midst
midsummer	midsumm
midway	midwai
midwife	midwif
midwives	midwiv
miene	mienn
might	might
mightful	might
mightier	mightier
mightiest	mightiest
mightily	mightili
mightiness	mighti
mightst	mightst
mighty	mighti
milan	milan
milch	milch
mild	mild

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mildest	mildest
mildew	mildew
mildews	mildew
mildly	mildli
mildness	mild
mile	mile
miles	mile
milford	milford
militarist	militarist
military	militari
milk	milk
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milkmaid	milkmaid
milks	milk
milksops	milksop
milky	
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mill	mill
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milliner	millin
million	million
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millions	million
mills	mill
millstones	millston
milo	milo
mimic	mimic
minc	minc
mince	minc
minces	minc
mincing	minc
mind	mind
minded	mind
mindng	mind
mindless	mindless
minds	mind
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minerals	miner
minerva	minerva
mines	mine
mingle	mingl
mingled	mingl
mingling	mingl
minikin	minikin
minim	minim

minime	minim
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minimus	minimu
mining	mine
minion	minion
minions	minion
minist	minist
minister	minist
ministers	minist
ministration	ministr
minnow	minnow
minnows	minnow
minola	minola
minority	minor
minos	mino
minotaurs	minotaur
minstrel	minstrel
minstrels	minstrel
minstrelsy	minstrelsi
mint	mint
mints	mint
minute	minut
minutely	minut
minutes	minut
minx	minx
mio	mio
mir	mir
mirable	mirabl
miracle	miracl
miracles	miracl
miraculous	miracul
miranda	miranda
mire	mire
mirror	mirror
mirrors	mirror
mirth	mirth
mirthful	mirth
miry	miri
mis	mi
misadventur	misadventur
misadventure	misadventur
misanthropos	misanthropo
misapplied	misappli
misbecame	misbecam
misbecom	misbecom
misbecome	misbecom
misbegot	misbegot

misbegotten	misbegotten
misbeliever	misbeliev
misbelieving	misbeliev
misbhav	misbhav
miscall	miscal
miscalled	miscal
miscarried	miscarri
miscarries	miscarri
miscarry	miscarri
miscarrying	miscarri
mischance	mischanc
mischances	mischanc
mischief	mischief
mischiefs	mischief
mischievous	mischiev
misconceived	
misconceiv	
misconst	misconst
misconster	misconst
misconstruction	misconstruct
misconstrued	misconstru
misconstrues	misconstru
miscreant	miscreant
miscreate	miscreat
misdeed	misde
misdeeds	misde
misdemean	misdemean
misdemeanours	misdemeanour
misdoubt	misdoubt
misdoubteth	misdoubteth
misdoubts	misdoubt
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miserable	miser
miserably	miser
misericorde	misericord
miseries	miseri
misers	miser
misery	miseri
misfortune	misfortun
misfortunes	misfortun
misgive	misgiv
misgives	misgiv
misgiving	misgiv
misgoverned	misgovern
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misgraffed	

misgraf	
misguide	misguid
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misord	misord
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misplaced	misplac
misplaces	misplac
mispris	mispri
misprised	mispris
misprision	mispris
misprizing	mispriz
misproud	misproud
misquote	misquot
misreport	misreport
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missed	miss
misses	miss
misshap	misshap
misshapen	misshapen
misshathed	misshath
missing	miss
missingly	
missingli	
missions	mission
missive	missiv
missives	missiv
misspoke	misspok
mist	mist
mista	mista
mistak	mistak
mistake	mistak
mistaken	mistaken
mistakes	mistak
mistaketh	mistaketh
mistaking	mistak
mistakings	mistak
mistemp	mistemp
mistempered	mistemp
misterm	misterm

mistful	mist
misthink	misthink
misthought	misthought
mistletoe	mistleto
mistook	mistook
mistreadings	mistread
mistress	mistress
mistresses	mistress
mistresss	mistresss
mistriship	mistriship
mistrust	mistrust
mistrusted	mistrust
mistrustful	mistrust
mistrusting	mistrust
mists	mist
misty	misti
misus	misu
misuse	misus
misused	misus
misuses	misus
mites	mite
mithridates	mithrid
mitigate	mitig
mitigation	mitig
mix	mix
mixed	mix
mixture	mixtur
mixtures	mixtur
mm	mm
mnd	mnd
moan	moan
moans	moan
moat	moat
moated	moat
mobled	mobl
mock	mock
mockable	mockabl
mocker	mocker
mockeries	mockeri
mockers	mocker
mockery	mockeri
mocking	mock
mocks	mock
mockvater	mockvat
mockwater	mockwat
model	model
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moderate	moder
moderately	moder
moderation	moder
modern	modern
modest	modest
modesties	modesti
modestly	modestli
modesty	modesti
modicums	modicum
modo	modo
module	modul
moe	moe
moi	moi
moiety	moieti
moist	moist
moisten	moisten
moisture	moistur
moldwarp	moldwarp
mole	mole
molehill	molehil
moles	mole
molest	molest
molestation	molest
mollification	mollif
mollis	molli
molten	molten
molto	molto
mome	mome
moment	moment
momentary	momentari
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mon	mon
monachum	monachum
monarch	monarch
monarchies	monarchi
monarchize	monarch
monarcho	monarcho
monarchs	monarch
monarchy	monarchi
monast	monast
monastery	monasteri
monastic	monast
monday	mondai
monde	mond
money	monei
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mongrel	mongrel
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monk	monk
monkey	monkei
monkeys	monkei
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monmouth	monmouth
monopoly	monopoli
mons	mon
monsieur	monsieur
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monster	monster
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monstrous	monstrou
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monstruosity	monstruos
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montez	montez
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montgomery	montgomeri
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monthly	monthli
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montjoy	montjoi
monument	monument
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moon	moon
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moonish	moonish
moonlight	moonlight
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moor	moor
moorfields	moorfield
moors	moor
moorship	moorship
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mordake	mordak
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morris	morri
morrow	morrow
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mountebank	mountebank
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musician	musician
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neglection	neglect
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neither	neither
nell	nell
nemean	nemean
nemesis	nemesi
neoptolemus	neoptolemu
nephew	nephew
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neptune	neptun
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nero	nero
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nerve	nerv
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nettle	nettl
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neutral	neutral
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nevil	nevil
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newborn	newborn
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newest	newest
newgate	newgat
newly	newli
newness	new
news	new
newsmongers	newsmong
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next	next
nibbling	nibbl
nicanor	nicanor
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nicholas	nichola
nick	nick
nickname	nicknam
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niece	
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niggard	niggard
niggarding	niggard
niggardly	niggardli
nigh	nigh
night	night
nightcap	nightcap
nightcaps	nightcap
nighted	night
nightgown	nightgown
nightingale	nightingal
nightingales	nightingal
nightly	nightli
nightmare	nightmar
nights	night
nightwork	nightwork
nihil	nihil
nile	nile
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nilus	nilu
nimble	nimbl
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nineteen	nineteen
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nnight	nnight
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no	no
noah	noah
nob	nob
nobility	nobil
nobis	nobi
noble	nobl
nobleman	nobleman
noblemen	noblemen
nobleness	nobl
nobler	nobler
nobles	nobl
noblesse	nobless
noblest	noblest
nobly	nobli
nobody	nobodi
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noisemaker	noisemak
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noisome	noisom
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non	non
nonage	nonag
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none	none
nonino	nonino
nonny	nonni
nonpareil	nonpareil
nonsuits	nonsuit
nony	noni
nook	nook
nooks	nook
noon	noon
noonday	noondai
noontide	noontid
nor	nor
norbery	norberi
norfolk	norfolk
norman	norman
normandy	normandi
normans	norman
north	north
northampton	northampton
northamptonshire	northamptonshir
northerly	northerli
northern	northern
northgate	northgat
northumberland	northumberland
northumberlands	northumberland
northward	northward
norway	norwai
norways	norwai
norwegian	norwegian
norweyan	norweyan
nos	no
nose	nose
nosegays	nosegai
noseless	noseless
noses	nose
noster	noster

nostra	nostra
nostril	nostril
nostrils	nostril
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notable	notabl
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notary	notari
notch	notch

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notebook	notebook
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notedly	notedli
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notest	notest
noteworthy	noteworthy
nothing	noth
nothings	noth
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noting	note
notion	notion
notorious	notori
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notwithstanding	notwithstand
nought	nought
noun	noun
nouns	noun
nourish	nourish
nourished	nourish
nourisher	nourish
nourishes	nourish
nourisheth	nourisheth
nourishing	nourish
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nous	nou
novel	novel
novelties	novelti
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noverbs	
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novi	novi
novice	novic
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novum	novum
now	now
nowhere	nowher

noyance	noyanc
ns	ns
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nubibus	nubibu
numa	numa
numb	numb
number	number
numbered	number
numbering	number
numberless	numberless
numbers	number
numbness	numb
nun	nun
nuncio	nuncio
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nunnery	nunneri
nuns	nun
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nuptial	nuptial
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nurses	nurs
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nursh	nursh
nursing	nurs
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nut	nut
nuthook	nuthook
nutmeg	nutmeg
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nutriment	nutriment
nuts	nut
nutshell	nutshel
ny	ny
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oak	oak
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oatcake	oatcak
oaten	oaten
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oathable	oathabl
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ob	ob
obduracy	obduraci
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obedience	obedi
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obeisance	obeis
oberon	oberon
obey	obei
obeyed	obei
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object	object
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objections	object
objects	object
oblation	oblat
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obligation	oblig
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oblique	obliqu
oblivion	oblivion
oblivious	oblivi
obloquy	obloqui
obscene	obscen
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occasion	occas
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offspring	offspr
oft	oft
often	often

oftener	often
oftentimes	oftentim
oh	oh
oil	oil
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oily	oili
old	old
oldcastle	oldcastl
olden	olden
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oldest	oldest
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olive	oliv
oliver	oliv
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olympian	olympian
olympus	olympu
oman	oman
omans	oman
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ominous	omin
omission	omiss
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onward	onward
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op	op
opal	opal
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open	open
opener	open
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operant	oper
operate	oper
operation	oper
operations	oper
operative	oper
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ophelia	ophelia
opinion	opinion
opinions	opinion
opportune	opportun
opportunities	opportun
opportunity	opportun
oppos	oppo
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oppress	oppress
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oppressor	oppressor
opprest	opprest
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oracle	oracl
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ord	ord
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organ	organ
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orgillous	orgil
orient	orient
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origin	origin
original	origin
orisons	orison
ork	ork
orlando	orlando
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ornament	ornament
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orodes	orod
orphan	orphan
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ort	ort
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ostrich	ostrich
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othello	othello
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outrage	outrag
outrageous	outrag
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outrun	outrun
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overmounting	overmount
overmuch	overmuch
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pleasure	pleasur
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pluto	pluto
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ply	ply
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pockets	pocket
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pody	podi
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progenitors	progenitor
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ptolemies	ptolemi
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publican	publican
publication	public
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publishing	publish
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pucelle	pucel
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pueritia	pueritia
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quests	quest
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quickly	quickli
quickness	quick
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quicksands	quicksand
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quiddits	quiddit
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quietly	quietli
quietness	quiet
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raging	rage
ragozine	ragozin
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railed	rail
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railest	railest
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railing	rail
rails	rail
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slaughterous	slaughter
slaughters	slaughter
slave	slave
slaver	slaver
slavery	slaveri
slaves	slave
slavish	slavish
slay	slai
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slaying	slai
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sleave	sleav
sledded	sled
sleek	sleek
sleekly	sleekli
sleep	sleep
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sleepiest	sleepiest
sleeping	sleep

sleeps	sleep
sleepy	sleepi
sleeve	sleev
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slenderly	slenderli
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slip	slip
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slippers	slipper
slippery	slipperi
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sliver	sliver
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slop	slop
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slothful	sloth
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slovenly	slovenli
slovenry	slovenri
slow	slow
slower	slower
slowly	slowli
slowness	slow
slubber	slubber
slug	slug
sluggard	sluggard
sluggardiz	sluggardiz
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slumb	slumb
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slumbers	slumber
slumbery	slumberi
slunk	slunk
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smack	smack
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snarling	snarl

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snatchers	snatcher
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snowballs	snowbal
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snowy	snowi
snuff	snuff
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soaking	soak
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sobbing	sob
sober	sober
soberly	soberli
sobriety	sobrieti
sobs	sob
sociable	sociabl
societies	societi
society	societi
socks	sock
socrates	socrat
sod	sod
sodden	sodden
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soever	soever
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softer	softer
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softly	softli
softness	soft
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sol	sol
sola	sola
solace	solac
solanio	solanio
sold	sold
soldat	soldat
solder	solder
soldest	soldest
soldier	soldier
soldiers	soldier
soldiership	soldiership
sole	sole
solely	sole
solem	solem
solemn	solemn
solemnness	solem
solemnities	solemn
solemnity	solemn
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solemnized	solemn
solemnly	solemnli
soles	sole
solicit	solicit
solicitation	solicit
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solicitor	solicitor
solicits	solicit
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solidares	solidar
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solinus	solinu
solitary	solitari
solomon	solomon

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solyman	solyman
some	some
somebody	somebodi
someone	someon
somerset	somerset
somerville	somervil
something	someth
sometime	sometim
sometimes	sometim
somever	somev
somewhat	somewhat
somewhere	somewher
somewhither	somewhith
somme	somm
son	son
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song	song
songs	song
sonnet	sonnet
sonneting	sonnet
sonnets	sonnet
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sonties	sonti
soon	soon
sooner	sooner
soonest	soonest
sooth	sooth
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soothers	soother
soothing	sooth
soothsay	soothsai
soothsayer	soothsay
sooty	sooti
sop	sop
sophister	sophist
sophisticated	sophist
sophy	sophi
sops	sop
sorcerer	sorcer
sorcerers	sorcer
sorceress	sorceress
sorceries	sorceri
sorcery	sorceri

sore	sore
sorel	sorel
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sorrier	sorrier
sorriest	sorriest
sorrow	sorrow
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sorrowest	sorrowest
sorrowful	sorrow
sorrowing	sorrow
sorrows	sorrow
sorry	sorri
sort	sort
sortance	sortanc
sorted	sort
sorting	sort
sorts	sort
sossius	sossiu
sot	sot
soto	soto
sots	sot
sottish	sottish
soud	soud
sought	sought
soul	soul
sould	sould
soulless	soulless
souls	soul
sound	sound
sounded	sound
souder	souder
soundest	soundest
sounding	sound
soundless	soundless
soundly	soundli
soundness	sound
soundpost	soundpost
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sourest	sourest
sourly	sourli
sours	sour
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souse	sous
south	south
southam	southam
southampton	southampton
southerly	southerli
southern	southern
southward	southward
southwark	southwark
southwell	southwel
souviendrai	souviendrai
sov	sov
sovereign	sovereign
sovereignest	sovereignest
sovereignly	sovereignli
sovereignty	sovereignti
sovereignvours	sovereignvour
sow	sow
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sowter	sowter
space	space
spaces	space
spacious	spaciou
spade	spade
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spangle	spangl
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spaniard	spaniard
spaniel	spaniel
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sparingly	sparingli
spark	spark
sparkle	sparkl
sparkles	sparkl
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sparks	spark
sparrow	sparrow
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speakers	speaker
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special	special
specialities	special
specially	special
specialties	specialti
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specify	specifi
speciously	specious
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spectators	spectat
spectatorship	spectatorship
speculation	specul
speculations	specul
speculative	specul
sped	sped
speech	speech
speeches	speech
speechless	speechless
speed	speed
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speediest	speediest
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speeding	speed
speeds	speed
speedy	speedi
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spelling	spell
spells	spell
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spencer	spencer
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spendest	spendest
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spendthrift	spendthrift
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sperm	sperm
spero	spero
sperr	sperr
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sphere	sphere
sphered	sphere
spheres	sphere
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sphery	spheri
sphinx	sphinx
spice	spice
spiced	spice
spicery	spiceri
spices	spice
spider	spider
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spied	spi
spies	spi
spieth	spieth
spightfully	spightfulli
spigot	spigot
spill	spill
spilling	spill
spills	spill
spilt	spilt
spilth	spilth
spin	spin
spinii	spinii
spinners	spinner
spinster	spinster
spinsters	spinster
spire	spire
spirit	spirit
spirited	spirit
spiritless	spiritless

spirits	spirit
spiritual	spiritu
spirituality	spiritualti
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splendour	splendour
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splinter	splinter
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spokesman	spokesman
sponge	spong
spongy	spongi
spoon	spoon
spoons	spoon
sport	sport
sportful	sport
sporting	sport
sportive	sportiv
sports	sport
spot	spot
spotless	spotless
spots	spot
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spousal	spousal

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sprighted	spright
sprightful	spright
sprightly	sprightli
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springhalt	springhalt
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spurr	spurr
spurrer	spurrer
spurring	spur
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spy	spy
spying	spy
squabble	squabbl

squadron	squadron
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squand	squand
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squash	squash
squeak	
squeak	
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squeal	squeal
squealing	squeal
squeezes	squeez
squeezing	squeez
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squints	squint
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squirrel	squirrel
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stabbed	stab
stabbing	stab
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staff	staff
stafford	stafford
staffords	stafford
staffordshire	staffordshir
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stalking	stalk
stalks	stalk
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stalling	stall
stalls	stall
stamford	stamford
stammer	stammer
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stamps	stamp
stanch	stanch
stanchless	stanchless
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standard	standard
standards	standard
stander	stander
standers	stander
standest	standest
standeth	standeth
standing	stand
stands	stand
staniel	staniel
stanley	stanlei
stanze	stanz
stanzo	stanzo
stanzos	stanzo
staple	stapl
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star	star
stare	stare
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staring	stare
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stark	stark
starkly	starkli
starlight	starlight
starling	starl
starr	starr
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start	start
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starting	start
startingly	startingly
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starts	start
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starvelackey	starvelackei
starveling	starvel
starveth	starveth
starving	starv
state	state
statelier	stateli
stately	state
states	state
statesman	statesman
statesmen	statesmen
statilius	statiliu
station	station
statist	statist
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statue	statu
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steadfast	steadfast

steadier	steadier
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steering	steer
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stemming	stem
stench	stench
step	step
stepdame	stepdam
stephano	stephano
stephen	stephen
stepmothers	stepmoth
stepp	stepp
stepping	step
steps	step
sterile	steril
sterility	steril
sterling	sterl
stern	stern
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sterner	sterner
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stew	stew
steward	steward

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stiff	stiff
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stifle	stifl
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stints	stint
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stirrups	stirrup
stirs	stir
stitchery	stitcheri
stitches	stitch
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stoccadoes	stoccado
stoccata	stoccata
stock	stock
stockfish	stockfish
stocking	stock
stockings	stock
stockish	stockish
stocks	stock
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stoics	stoic
stokesly	stokesli
stol	stol
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stolest	stolest
stomach	stomach
stomachers	stomach
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stomachs	stomach
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stonecutter	stonecutt
stones	stone
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stony	stoni
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stoop	stoop
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storms	storm
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story	stori
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stoutness	stout
stover	
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stowed	stow
strachy	strachi
stragglers	straggler
straggling	straggl
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straited	strait
straiter	straiter
straitly	straitli
straitness	strait
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strappado	strappado
straps	strap
stratagem	stratagem
stratagems	stratagem
stratford	stratford

strato	strato
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strawberries	strawberri
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straws	straw
strawy	strawi
stray	strai
straying	strai
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streak	streak
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streamers	streamer
streaming	stream
streams	stream
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streets	street
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stricter	stricter
strictest	strictest
strictly	strictli
stricture	strictur
stride	stride
strides	stride
striding	stride
strife	strife
strifes	strife
strik	strik
strike	strike
strikers	striker
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strikest	strikest
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strip	strip
stripes	stripe
stripling	stripl
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stripp	stripp
stripping	strip
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striving	strive
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stronds	strond
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stronger	stronger
strongest	strongest
strongly	strongli
strooke	strook
strossers	strosser
strove	strove
strown	strown
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strucken	strucken
struggle	struggl
struggles	struggl
struggling	struggl
strumpet	strumpet
strumpeted	strumpet
strumpets	strumpet
strung	strung
strut	strut
struts	
strut	
strutted	strut
strutting	strut
stubble	stubble
stubborn	stubborn
stubbornest	stubbornest
stubbornly	stubbornli
stubbornness	stubborn
stuck	stuck

studded	stud
student	student
students	student
studied	studi
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studious	studiou
studiously	studious
studs	stud
study	studi
studying	studi
stuff	stuff
stuffing	stuf
stuffs	stuff
stumble	stumbl
stumbled	stumbl
stumblest	stumblest
stumbling	stumbl
stump	stump
stumps	stump
stung	stung
stupefy	stupefi
stupid	stupid
stupified	
stupifi	
stuprum	stuprum
sturdy	sturdi
sty	sty
styga	styga
stygian	stygian
styl	styl
style	style
styx	styx
su	su
sub	sub
subcontracted	subcontract
subdu	subdu
subdue	subdu
subdued	subdu
subduements	subduement
subdues	subdu
subduing	subdu
subject	subject
subjected	subject
subjection	subject
subjects	subject
submerg	submerg
submission	submit
submissive	submit

submit	submit
submits	submit
submitting	submit
suborn	suborn
subornation	suborn
suborned	suborn
subscrib	
subscrib	
subscribe	subscrib
subscribed	subscrib
subscribes	subscrib
subscription	subscript
subsequent	subsequ
subsidies	subsidi
subsidy	subsidi
subsist	subsist
subsisting	subsist
substance	substanc
substances	substanc
substantial	substanti
substitute	substitut
substituted	substitut
substitutes	substitut
substitution	substitut
subtile	subtil
subtilly	subtilli
subtle	subtl
subtleties	subtleti
subtlety	subtleti
subtly	subtli
subtractors	subtractor
suburbs	suburb
subversion	subvers
subverts	subvert
succedant	succeed
succeed	suce
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succeeders	
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succeeds	suce
success	success
successantly	successantli
successes	success
successful	success
successfully	successfulli
succession	success
successive	success

successively	success
successor	successor
successors	successor
succour	succour
succours	succour
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suck	suck
sucker	sucker
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whistles	whistl
whistling	whistl
whit	whit
white	white
whitehall	whitehal
whitely	white
whiteness	
white	
whiter	whiter
whites	white
whitest	whitest
whither	whither

whiting	white
whitmore	whitmor
whitsters	whitster
whitsun	whitsun
whittle	whittl
whizzing	whizz
who	who
whoa	whoa
whoe	whoe
whoever	whoever
whole	whole
wholesom	wholesom
wholesome	wholesom
wholly	wholli
whom	whom
whoobub	whoobub
whoop	whoop
whooping	whoop
whor	whor
whore	whore
whoremaster	whoremast
whoremasterly	whoremasterli
whoremonger	whoremong
whores	whore
whoreson	whoreson
whoresons	whoreson
whoring	
whore	
whorish	whorish
whose	whose
whoso	whoso
whosoe	whoso
whosoever	whosoev
why	why
wi	wi
wick	wick
wicked	wick
wickednes	wickedn
wickedness	wicked
wicket	wicket
wicky	wicki
wid	wid
wide	wide
widens	widen
wider	wider
widow	widow
widowed	widow
widower	widow

widowhood	widowhood
widows	widow
wield	wield
wife	wife
wight	wight
wights	wight
wild	wild
wildcats	wildcat
wilder	wilder
wilderness	wilder
wildest	wildest
wildfire	
wildfir	
wildly	wildli
wildness	wild
wilds	wild
wiles	wile
wilful	wil
wilfull	wilful
wilfully	wilfulli
wilfulness	wilfuln
wilfulness	wil
will	will
willed	will
willers	willer
willeth	willeth
william	william
williams	william
willing	will
willingly	willingli
willingness	willing
willoughby	willoughbi
willow	willow
wills	will
wilt	wilt
wiltshire	wiltshir
wimpled	wimpl
win	win
wince	winc
winch	winch
winchester	winchest
wincot	wincot
wind	wind
winded	wind
windgalls	windgal
winding	wind
windlasses	windlass
windmill	windmil

window	window
windows	window
windpipe	windpip
winds	wind
windsor	windsor
windy	windi
wine	wine
wing	wing
winged	wing
wingfield	wingfield
wingham	wingham
wings	wing
wink	wink
winking	wink
winks	wink
winner	winner
winner	winner
winning	win
winnow	winnow
winnowed	winnow
winnows	winnow
wins	win
winter	winter
winterly	winterli
winters	winter
wip	wip
wipe	wipe
wiped	wipe
wipes	wipe
wiping	wipe
wire	wire
wires	wire
wiry	wiri
wisdom	wisdom
wisdoms	wisdom
wise	wise
wiselier	wiseli
wisely	wise
wiser	wiser
wisest	wisest
wish	wish
wished	wish
wisher	wisher
wishers	wisher
wishes	wish
wishest	wishest
wisheth	wisheth
wishful	wish

wishing	wish
wishtly	wishtli
wisp	wisp
wist	wist
wit	wit
witb	witb
witch	witch
witchcraft	witchcraft
witches	witch
witching	witch
with	with
withal	withal
withdraw	withdraw
withdrawing	withdraw
withdrawn	withdrawn
withdrew	withdrew
wither	wither
withered	wither
withering	wither
withers	wither
withheld	withheld
withhold	withhold
withholds	withhold
within	within
withold	withold
without	without
withstand	withstand
withstanding	withstand
withstood	withstood
witless	witless
witness	wit
witnesses	wit
witnesseth	witnesseth
witnessing	wit
wits	wit
witted	wit
wittenberg	wittenberg
wittiest	wittiest
wittily	wittili
witting	wit
wittingly	wittingli
wittol	wittol
wittolly	
wittolli	
witty	witti
wiv	wiv
wive	wive

wived	wive
wives	wive
wiving	wive
wizard	wizard
wizards	wizard
wo	wo
woe	woe
woeful	woeful
woefull	woeful
woefullest	woefullest
woes	woe
woful	woful
wolf	wolf
wolfish	wolfish
wolsey	wolsei
wolves	wolv
wolvish	wolvish
woman	woman
womanhood	womanhood
womanish	womanish
womankind	womankind
womanly	womanli
womb	womb
wombs	womb
womby	wombi
women	women
won	won
woncot	woncot
wond	
wond	
wonder	wonder
wondered	wonder
wonderful	wonder
wonderfully	wonderfulli
wondering	wonder
wonders	wonder
wondrous	wondrou
wondrously	wondrous
wont	wont
wonted	wont
woo	woo
wood	wood
woodbine	woodbin
woodcock	woodcock
woodcocks	woodcock
wooden	wooden
woodland	woodland
woodman	woodman



woodmonger	woodmong
woods	wood
woodstock	woodstock
woodville	woodvil
woed	woo
woer	woer
woers	woer
woes	woe
woof	woof
woing	woo
woingly	woingli
wool	wool
woollen	woollen
woolly	woolli
woolsack	woolsack
woolsey	woolsei
woolward	woolward
woos	woo
wor	wor
worcester	worcest
word	word
words	word
wore	wore
worins	worin
work	work
workers	worker
working	work
workings	work
workman	workman
workmanly	workmanli
workmanship	workmanship
workmen	workmen
works	work
worky	worki
world	world
worldlings	worldl
worldly	worldli
worlds	world
worm	worm
worms	worm
wormwood	wormwood
wormy	wormi
worn	worn
worried	worri
worries	
worri	
worry	worri
worrying	worri

worse	wors
worser	worser
worship	worship
worshipful	worship
worshipfully	worshipfulli
worshipp	worshipp
worshipper	worshipp
worshippers	worshipp
worshippest	worshippest
worships	worship
worst	worst
worsted	worst
wort	wort
worth	worth
worthied	worthi
worthier	worthier
worthies	worthi
worthiest	worthiest
worthily	worthili
worthiness	worthi
worthless	worthless
worths	worth
worthy	worthi
worts	wort
wot	wot
wots	wot
wotting	wot
wouid	wouid
would	
would	
wouldest	wouldest
wouldst	wouldst
wound	wound
wounded	wound
wounding	wound
woundings	wound
woundless	woundless
wounds	wound
wouns	woun
woven	woven
wow	wow
wrack	wrack
wrackful	wrack
wrangle	wrangl
wrangler	wrangler
wranglers	wrangler
wrangling	wrangl
wrap	wrap

wrapp	wrapp
wraps	wrap
wrapt	wrapt
wrath	wrath
wrathful	wrath
wrathfully	wrathfulli
wraths	wrath
wreak	wreak
wreakful	wreak
wreaks	wreak
wreath	wreath
wreathed	wreath
wreathen	wreathen

wreaths	wreath
wreck	wreck
wrecked	wreck
wrecks	wreck
wren	wren
wrench	wrench
wrenching	wrench
wrens	wren
wrest	wrest
wrested	wrest
wresting	wrest
wrestle	wrestl
wrestled	wrestl
wrestler	wrestler
wrestling	wrestl
wretch	wretch
wretchcd	wretchcd
wretched	wretch
wretchedness	wretched
wretches	wretch
wring	wring
wringer	wringer
wringing	wring
wrings	wring
wrinkle	wrinkl
wrinkled	wrinkl
wrinkles	wrinkl
wrist	wrist
wrists	wrist
writ	writ
write	write
writer	
writer	
writers	writer

writes	write
writhled	writhl
writing	write
writings	write
writs	writ
written	written
wrong	wrong
wronged	wrong
wronger	wronger
wrongful	wrong
wrongfully	wrongfulli
wronging	wrong
wrongly	wrongli
wrongs	wrong
wronk	wronk
wrote	wrote
wroth	wroth
wrought	wrought
wrung	wrung
wry	wry
wrying	wry
wt	wt
wul	wul
wye	wye
x	x
xanthippe	xanthipp
xi	xi
xii	xii
xiii	xiii
xiv	xiv
xv	xv
y	
	y
yard	yard
yards	yard
yare	yare
yarely	yare
yarn	yarn
yaughan	yaughan
yaw	yaw
yawn	yawn
yawning	yawn
ycleped	yclepe
ycliped	yclipe
ye	ye
yea	yea
yead	yead
year	year

yearly	yearli
yearn	yearn
yearns	yearn
years	year
yeas	yea
yeast	yeast
yedward	yedward
yell	yell
yellow	yellow
yellowed	yellow
yellowing	yellow
yellowness	yellow
yellows	yellow
yells	yell
yelping	yelp
yeoman	yeoman
yeomen	yeomen
yerk	yerk
yes	ye
yesterday	yesterdai
yesterdays	yesterdai
yesternight	yesternight
yesty	yesti
yet	yet
yew	yew
yield	yield
yield	yield
yielded	yield
yielder	yielder
yielders	yielder
yielding	yield
yields	yield
yok	yok
yoke	yoke
yoked	yoke
yokefellow	yokefellow
yokes	yoke
yoketh	yoketh
yon	yon
yond	yond
yonder	yonder
yongrey	yongrei
yore	yore
yorick	yorick
york	york
yorkists	yorkist
yorks	york
yorkshire	yorkshir

```

you
  you
young    young
younger  younger
youngest youngest
youngling youngl
younglings youngl
youngly  youngli
yunker   yunker
your     your
yours    your
yourself yourself
yourselves yourselv
youth    youth
youthful youth
youths   youth
youtli   youtli
zanies   zani
zany     zani
zeal     zeal
zealous  zealou
zeals    zeal
zed      zed
zenelophon zenelophon
zenith   zenith
zephyrs  zephyr
zir      zir
zo       zo
zodiac   zodiac
zodiacs  zodiac
zone     zone
zounds   zound
zwagger  zwagger
}

```

```
# Create a full-text index to use for testing the stemmer.
```

```
#
```

```
db close
```

```
sqlite3 db :memory:
```

```
db eval {
```

```
  CREATE VIRTUAL TABLE t1 USING fts1(word, tokenize Porter);
```

```
}
```

```
foreach {pfrom pto} $porter_test_data {
```

```
  do_test fts1porter-$pfrom {
```

```
    execsql {
```

```
      DELETE FROM t1_term;
```

```
DELETE FROM t1_content;
INSERT INTO t1(word) VALUES($pfrom);
SELECT term FROM t1_term;
}
} $pto
}
```

finish\_test

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/test/fts1porter.test
No license file was found, but licenses were detected in source scan.
```

public domain.</li>

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/changes.html
No license file was found, but licenses were detected in source scan.
```

License: Public Domain

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite.spec
No license file was found, but licenses were detected in source scan.
```

is free to use SQLite from multiple threads, but it must make sure

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/custombuild.html
No license file was found, but licenses were detected in source scan.
```

/\*

\*\* 2004 May 22

\*\*

\*\* The author disclaims copyright to this source code. In place of

\*\* a legal notice, here is a blessing:

\*\*

\*\* May you do good and not evil.

\*\* May you find forgiveness for yourself and forgive others.

\*\* May you share freely, never taking more than you give.

\*\*

\*\*\*\*\*

\*\*

\*\* This file contains the VFS implementation for unix-like operating systems

```

** include Linux, MacOSX, *BSD, QNX, VxWorks, AIX, HPUX, and others.
**
** There are actually several different VFS implementations in this file.
** The differences are in the way that file locking is done. The default
** implementation uses Posix Advisory Locks. Alternative implementations
** use flock(), dot-files, various proprietary locking schemas, or simply
** skip locking all together.
**
** This source file is organized into divisions where the logic for various
**
subfunctions is contained within the appropriate division. PLEASE
** KEEP THE STRUCTURE OF THIS FILE INTACT. New code should be placed
** in the correct division and should be clearly labeled.
**
** The layout of divisions is as follows:
**
** * General-purpose declarations and utility functions.
** * Unique file ID logic used by VxWorks.
** * Various locking primitive implementations (all except proxy locking):
**   + for Posix Advisory Locks
**   + for no-op locks
**   + for dot-file locks
**   + for flock() locking
**   + for named semaphore locks (VxWorks only)
**   + for AFP filesystem locks (MacOSX only)
** * sqlite3_file methods not associated with locking.
** * Definitions of sqlite3_io_methods objects for all locking
**   methods plus "finder" functions for each locking method.
** * sqlite3_vfs method implementations.
** * Locking primitives for the proxy uber-locking-method. (MacOSX only)
** * Definitions of sqlite3_vfs objects
for all locking methods
**   plus implementations of sqlite3_os_init() and sqlite3_os_end().
*/

```

Found in path(s):

```

* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/src/os_unix.c
No license file was found, but licenses were detected in source scan.

```

/\*

```

** The "printf" code that follows dates from the 1980's. It is in
** the public domain. The original comments are included here for
** completeness. They are very out-of-date but might be useful as
** an historical reference. Most of the "enhancements" have been backed
** out so that the functionality is now the same as standard printf().
**

```

\*\*

```

** $Id: printf.c,v 1.104 2009/06/03 01:24:54 drh Exp $

```



```

**
*****
**
** The following modules is an enhanced replacement for the "printf" subroutines
** found in the standard C library. The following enhancements are
** supported:
**
** + Additional functions. The standard set of "printf" functions
** includes printf, fprintf, sprintf, vprintf, vfprintf, and
** vsprintf. This module adds the following:
**
** * snprintf -- Works like sprintf, but has an extra argument
**
**         which is the size of the buffer written to.
**
** * mprintf -- Similar to sprintf. Writes output to memory
**         obtained from malloc.
**
** * xprintf -- Calls a function to dispose of output.
**
** * nprintf -- No output, but returns the number of characters
**         that would have been output by printf.
**
** * A v- version (ex: vsnprintf) of every function is also
**         supplied.
**
** + A few extensions to the formatting notation are supported:
**
** * The "=" flag (similar to "-") causes the output to be
**         be centered in the appropriately sized field.
**
** * The %b field outputs an integer in binary notation.
**
** * The %c field now accepts a precision. The character output
**         is repeated by the number of times the precision specifies.
**
** * The %' field works like %c, but takes
**         as its character the
**         next character of the format string, instead of the next
**         argument. For example, printf("%.78'") prints 78 minus
**         signs, the same as printf("%.78c", '-').
**
** + When compiled using GCC on a SPARC, this version of printf is
**         faster than the library printf for SUN OS 4.1.
**
** + All functions are fully reentrant.
**
**/

```

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/src/printf.c
```

No license file was found, but licenses were detected in source scan.

SQLite is open source, and is available in the public domain

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/books.html
```

No license file was found, but licenses were detected in source scan.

application is free to use the same [database connection](./c3ref/sqlite3.html) or the

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/c3ref/c_config_getmalloc.html
```

No license file was found, but licenses were detected in source scan.

SQLite itself is in the [public domain](copyright.html) and can be used for any purpose. But TH3 is proprietary and requires a license.

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/th3.html
```

No license file was found, but licenses were detected in source scan.

```
# 2006 September 14
```

```
#
```

```
# The author disclaims copyright to this source code. In place of
```

```
# a legal notice, here is a blessing:
```

```
#
```

```
# May you do good and not evil.
```

```
# May you find forgiveness for yourself and forgive others.
```

```
# May you share freely, never taking more than you give.
```

```
#
```

```
*****
```

```
# This file implements regression tests for SQLite library. The
```

```
# focus of this script is testing the FTS2 module.
```

```
#
```

```
# $Id: fts2c.test,v 1.1 2006/10/19 23:36:26 shess Exp $
```

```
#
```

```
set testdir [file dirname $argv0]
```

```
source $testdir/tester.tcl
```

# If SQLITE\_ENABLE\_FTS2 is defined, omit this file.

```
ifcapable !fts2 {  
  finish_test  
  return  
}
```

# Create a table of sample email data. The data comes from email

# archives of Enron executives that was published as part of the

# litigation against that company.

#

```
do_test fts2c-1.1 {
```

```
  db eval {
```

```
    CREATE VIRTUAL TABLE email
```

```
    USING fts2([from],[to],subject,body);
```

```
    BEGIN TRANSACTION;
```

```
INSERT INTO email([from],[to],subject,body) VALUES('savita.puthigai@enron.com', 'traders.eol@enron.com,  
traders.eol@enron.com', 'EnronOnline- Change to Autohedge', 'Effective Monday, October 22, 2001 the following  
changes will be made to the Autohedge functionality on EnronOnline.
```

The volume on the hedge will now respect the minimum volume and volume increment settings on the parent product. See rules below:

? If the transaction volume on the child is less than half of the parent's minimum volume no hedge will occur.

? If the transaction volume on the child is more than half the parent's minimum volume but less than half the volume increment on the parent, the hedge will volume will be the parent's minimum volume.

? For all other volumes, the same rounding rules will apply based on the volume increment on the parent product.

Please see example below:

Parent's Settings:

Minimum: 5000

Increment: 1000

Volume on Autohedge

```
transaction  Volume Hedged
```

```
1    - 2499    0
```

```
2500 - 5499   5000
```

```
5500 - 6499   6000');
```

```
INSERT INTO email([from],[to],subject,body) VALUES('dana.davis@enron.com', 'laynie.east@enron.com,  
lisa.king@enron.com, lisa.best@enron.com,', 'Leaving Early', 'FYI:
```

```
If it's ok with everyone's needs, I would like to leave @4pm. If you think
```

```
you will need my assistance past the 4 o'clock hour just let me know; I'll
```

```
be more than willing to stay.');
```

```
INSERT INTO email([from],[to],subject,body) VALUES('enron_update@concuere workplace.com',
```

```
'louise.kitchen@enron.com', '<<Concur Expense Document>> - CC02.06.02', 'The following expense report is ready  
for approval:
```

Employee Name: Christopher F. Calger

Status last changed by: Mollie E. Gustafson Ms

Expense Report Name: CC02.06.02

Report Total: \$3,972.93

Amount Due Employee: \$3,972.93

To approve this expense report, click on the following link for Concur Expense.

<http://expense.ms.enron.com>);

INSERT INTO email([from],[to],subject,body)

VALUES('jeff.duff@enron.com', 'julie.johnson@enron.com', 'Work request', 'Julie,

Could you print off the current work request report by 1:30 today?

Gentlemen,

I'd like to review this today at 1:30 in our office. Also, could you provide me with your activity reports so I can have Julie enter this information.

JD');

INSERT INTO email([from],[to],subject,body) VALUES('v.weldon@enron.com', 'gary.l.carrier@usa.dupont.com, scott.joyce@bankofamerica.com', 'Enron News', 'This could turn into something big....

<http://biz.yahoo.com/rf/010129/n29305829.html>);

INSERT INTO email([from],[to],subject,body) VALUES('mark.haedicke@enron.com', 'paul.simons@enron.com', 'Re: First Polish Deal!', 'Congrats! Things seem to be building rapidly now on the Continent. Mark');

INSERT INTO email([from],[to],subject,body) VALUES('e..carter@enron.com', 't..robinson@enron.com', 'FW: Producers Newsletter 9-24-2001', '

The producer lumber pricing sheet.

-----Original Message-----

From: Johnson, Jay

Sent: Tuesday,

October 16, 2001 3:42 PM

To: Carter, Karen E.

Subject: FW: Producers Newsletter 9-24-2001

-----Original Message-----

From: Daigre, Sergai

Sent: Friday, September 21, 2001 8:33 PM

Subject: Producers Newsletter 9-24-2001

');

INSERT INTO email([from],[to],subject,body) VALUES('david.delainey@enron.com', 'kenneth.lay@enron.com', 'Greater Houston Partnership', 'Ken, in response to the letter from Mr Miguel San Juan, my suggestion would be to offer up the Falcon for their use; however, given the tight time frame and your recent visit with Mr. Fox that it would be difficult for either you or me to participate.

I spoke to Max and he agrees with this approach.

I hope this meets with your approval.

Regards

Delainey');

INSERT INTO email([from],[to],subject,body) VALUES('lachandra.fenceroy@enron.com',  
'lindy.donoho@enron.com', 'FW: Bus Applications Meeting Follow Up', 'Lindy,

Here is the original memo we discussed earlier. Please provide any information that you may have.

Your cooperation is greatly appreciated.

Thanks,

lachandra.fenceroy@enron.com  
713.853.3884  
877.498.3401 Pager

-----Original Message-----

From: Bisbee, Joanne  
Sent: Wednesday, September 26, 2001 7:50 AM  
To: Fenceroy, LaChandra  
Subject: FW: Bus Applications Meeting Follow Up

Lachandra, Please get with David Duff today and see what this is about. Who are our TW accounting business users?

-----Original Message-----

From: Koh, Wendy  
Sent: Tuesday, September 25, 2001 2:41 PM  
To: Bisbee, Joanne  
Subject: Bus Applications Meeting Follow Up

Lisa brought up a TW change effective Nov 1. It involves eliminating a turnback surcharge. I have no other information, but you might check with the business folks for any system changes required.

Wendy');

INSERT INTO email([from],[to],subject,body) VALUES('danny.mccarty@enron.com', 'fran.fagan@enron.com',  
'RE: worksheets', 'Fran,

If Julie's merit needs to be lump sum, just move it over to that column. Also, send me Eric Gadd's sheets as well. Thanks.

Dan

-----Original Message-----

From: Fagan, Fran  
Sent: Thursday, December 20, 2001 11:10 AM

To: McCarty, Danny  
Subject: worksheets

As discussed, attached are your sheets for bonus and merit.

Thanks,

Fran Fagan  
Sr. HR Rep  
713.853.5219

<< File: McCartyMerit.xls >> << File: mccartyBonusCommercial\_UnP.xls >>

');

INSERT INTO email([from],[to],subject,body) VALUES('bert.meyers@enron.com', 'shift.dl-portland@enron.com', 'OCTOBER SCHEDULE', 'TEAM,

PLEASE SEND ME ANY REQUESTS THAT YOU HAVE FOR OCTOBER. SO FAR I HAVE THEM FOR LEAF. I WOULD LIKE TO HAVE IT DONE BY THE 15TH OF THE MONTH. ANY QUESTIONS PLEASE GIVE ME A CALL.

BERT');

INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com', 'john.arnold@enron.com, bilal.bajwa@enron.com, john.griffith@enron.com,', 'TRV Notification: (NG - PROPT P/L - 09/27/2001)', 'The report named: NG - PROPT P/L <[http://trv.corp.enron.com/linkFromExcel.asp?report\\_cd=11&report\\_name=NG+-+PROPT+P/L&category\\_cd=5&category\\_name=FINANCIAL&toc\\_hide=1&sTV1=5&TV1Exp=Y&current\\_efct\\_date=09/27/2001](http://trv.corp.enron.com/linkFromExcel.asp?report_cd=11&report_name=NG+-+PROPT+P/L&category_cd=5&category_name=FINANCIAL&toc_hide=1&sTV1=5&TV1Exp=Y&current_efct_date=09/27/2001)>, published as of 09/27/2001 is now available for viewing on the website.');

published as of 09/27/2001 is now available for viewing on the website.');

INSERT INTO email([from],[to],subject,body) VALUES('patrice.mims@enron.com', 'calvin.eakins@enron.com', 'Re: Small business supply assistance', 'Hi Calvin

I spoke with Rickey (boy, is he long-winded!!). Gave him the name of our credit guy, Russell Diamond.

Thank for your help!');

INSERT INTO email([from],[to],subject,body) VALUES('legal <.hall@enron.com>', 'stephanie.panus@enron.com', 'Termination update', 'City of Vernon and Salt River Project terminated their contracts. I will fax these notices to you.');

INSERT INTO email([from],[to],subject,body) VALUES('d..steffes@enron.com', 'richard.shapiro@enron.com', 'EES / ENA Government Affairs Staffing & Outside Services', 'Rick --

Here is the information on staffing and outside services. Call if you need anything else.

Jim

');

INSERT INTO email([from],[to],subject,body)

VALUES('gelliott@industrialinfo.com', 'pcopello@industrialinfo.com', 'ECAAR (Gavin), WSCC (Diablo Canyon), & NPCC (Seabrook)', 'Dear Power Outage Database Customer,

Attached you will find an excel document. The outages contained within are forced or rescheduled outages. Your daily delivery will still contain these outages.

In addition to the two excel documents, there is a dbf file that is formatted like your daily deliveries you receive nightly. This will enable you to load the data into your regular database. Any questions please let me know. Thanks.

Greg Elliott

IIR, Inc.

713-783-5147 x 3481

outages@industrialinfo.com

THE INFORMATION CONTAINED IN THIS E-MAIL IS LEGALLY PRIVILEGED AND CONFIDENTIAL INFORMATION INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ABOVE. YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION, OR COPY OF THIS E-MAIL TO UNAUTHORIZED ENTITIES IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS E-MAIL IN ERROR, PLEASE DELETE IT.

- OUTAGE.dbf

- 111201R.xls

- 111201.xls ');

INSERT INTO email([from],[to],subject,body) VALUES('enron.announcements@enron.com', 'all\_ena\_egm\_eim@enron.com', 'EWS Brown Bag', 'MARK YOUR LUNCH CALENDARS NOW !

You are invited to attend the EWS Brown Bag Lunch Series

Featuring: RAY BOWEN, COO

Topic: Enron Industrial Markets

Thursday, March 15, 2001

11:30 am - 12:30 pm

EB 5 C2

You bring your lunch, Limited Seating

We provide drinks and dessert. RSVP x 3-9610');

INSERT INTO email([from],[to],subject,body) VALUES('chris.germany@enron.com',

'ingrid.immer@williams.com', 'Re: About St Pauls', 'Sounds good to me. I bet this is next to the Warick?? Hotel.

"Immer, Ingrid" <Ingrid.Immer@Williams.com> on 12/21/2000 11:48:47 AM

To: "'chris.germany@enron.com'" <chris.germany@enron.com>

cc:

Subject: About St Pauls

<<About St Pauls.url>>

?

?http://www.stpaulshouston.org/about.html

Chris,

I like the looks of this place.? What do you think about going here Christmas eve?? They have an 11:00 a.m. service and a candlelight service at 5:00 p.m., among others.

Let me know.?? ii

- About St Pauls.url

');

INSERT INTO email([from],[to],subject,body) VALUES('nas@cpuc.ca.gov', 'skatz@sempratrad.com, kmccrea@sabl.com, thompson@wrightlaw.com.', 'Reply Brief filed July 31, 2000', ' - CPUC01-#76371-v1-Revised\_Reply\_Brief\_\_Due\_today\_7\_31\_.doc');

INSERT INTO email([from],[to],subject,body) VALUES('gascontrol@agresources.com', 'dscott4@enron.com, lcampbel@enron.com', 'Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder', 'Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder

As discussed in the Winter Operations Meeting on Sept.29,2000,

E-Gas(Emergency Gas) will not be offered this winter as a service from AGLC.

Marketers and Poolers can receive gas via Peaking and IBSS nominations(daisy chain) from other marketers up to the 6 p.m. Same Day 2 nomination cycle.

');

INSERT INTO email([from],[to],subject,body) VALUES('dutch.quigley@enron.com', 'rwoikwitz@powermerchants.com', ' ', ' ')

Here is a goody for you');

INSERT INTO email([from],[to],subject,body) VALUES('ryan.o.rourke@enron.com', 'k..allen@enron.com, randy.bhatia@enron.com, frank.ermis@enron.com.', 'TRV Notification: (West VaR - 11/07/2001)', 'The report named: West VaR

<http://trv.corp.enron.com/linkFromExcel.asp?report\_cd=36&report\_name=West+VaR&category\_cd=2&category\_name=WEST&toc\_hide=1&sTV1=2&TV1Exp=Y&current\_efct\_date=11/07/2001>, published as of 11/07/2001 is now available for viewing on the website.');

INSERT INTO email([from],[to],subject,body) VALUES('mjones7@txu.com', 'cstone1@txu.com, gggreen2@txu.com, timpowell@txu.com.', 'Enron / HPL Actuals for July 10, 2000', 'Teco Tap 10.000 / Enron ; 110.000 / HPL IFERC

LS HPL LSK IC 30.000 / Enron

');

INSERT INTO email([from],[to],subject,body) VALUES('susan.pereira@enron.com', 'kkw816@aol.com', 'soccer practice', 'Kathy-

Is it safe to assume that practice is cancelled for



tonight??

Susan Pereira');

INSERT INTO email([from],[to],subject,body) VALUES('mark.whitt@enron.com', 'barry.tycholiz@enron.com', 'Huber Internal Memo', 'Please look at this. I didn"t know how deep to go with the desk. Do you think this works.

');

INSERT INTO email([from],[to],subject,body) VALUES('m..forney@enron.com', 'george.phillips@enron.com', '', 'George,

Give me a call and we will further discuss opportunities on the 13st floor.

Thanks,

JMForney

3-7160');

INSERT INTO email([from],[to],subject,body) VALUES('brad.mckay@enron.com', 'angusmcka@aol.com', 'Re: (no subject)', 'not yet');

INSERT INTO email([from],[to],subject,body) VALUES('adam.bayer@enron.com', 'jonathan.mckay@enron.com', 'FW: Curve Fetch File', 'Here is the curve fetch file sent to me. It has plenty of points in it. If you give me a list of which ones you need we may be able to construct a secondary worksheet to vlookup the values.

adam

35227

-----Original Message-----

From: Royed, Jeff

Sent: Tuesday,

September 25, 2001 11:37 AM

To: Bayer, Adam

Subject: Curve Fetch File

Let me know if it works. It may be required to have a certain version of Oracle for it to work properly.

Jeff Royed

Enron

Energy Operations

Phone: 713-853-5295');

INSERT INTO email([from],[to],subject,body) VALUES('matt.smith@enron.com', 'yan.wang@enron.com', 'Report Formats', 'Yan,

The merged reports look great. I believe the only orientation changes are to "unmerge" the following six reports:

31 Keystone Receipts

15 Questar Pipeline

40 Rockies Production

22 West\_2  
23 West\_3  
25 CIG\_WIC

The orientation of the individual reports should be correct. Thanks.

Mat

PS. Just a reminder to add the "\*" by the title of calculated points.);  
INSERT INTO email([from],[to],subject,body) VALUES('michelle.lokay@enron.com', 'jimboman@bigfoot.com',  
'Egyptian Festival', '----- Forwarded by Michelle Lokay/ET&S/Enron on 09/07/2000  
10:08 AM -----')

"Karkour, Randa" <Randa.Karkour@COMPAQ.com>  
on 09/07/2000 09:01:04 AM  
To: ""Agheb (E-mail)" <Agheb@aol.com>, "Leila Mankarious (E-mail)"  
<Leila\_Mankarious@mhhs.org>, ""Marymankarious (E-mail)"  
<marymankarious@aol.com>, "Michelle lokay (E-mail)" <mlokay@enron.com>, "Ramy  
Mankarious (E-mail)" <Mankarious@aol.com>  
cc:

Subject: Egyptian Festival

<<Egyptian Festival.url>>

<http://www.egyptianfestival.com/>

- Egyptian Festival.url

);

INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com',  
'sherry.dawson@enron.com', 'Urgent!!! --- New EAST books', 'This has to be done.....')

Thanks

----- Forwarded by Errol McLaughlin/Corp/Enron on 12/20/2000  
08:39 AM -----

From: William Kelly @ ECT 12/20/2000 08:31 AM

To: Kam Keiser/HOU/ECT@ECT, Darron C Giron/HOU/ECT@ECT, David  
Baumbach/HOU/ECT@ECT, Errol McLaughlin/Corp/Enron@ENRON  
cc: Kimat Singla/HOU/ECT@ECT, Kulvinder Fowler/NA/Enron@ENRON,  
Kyle R  
Lilly/HOU/ECT@ECT, Jeff Royed/Corp/Enron@ENRON, Alejandra

Chavez/NA/Enron@ENRON, Crystal Hyde/HOU/ECT@ECT

Subject: New EAST books

We have new book names in TAGG for our intramonth portfolios and it is extremely important that any deal booked to the East is communicated quickly to someone on my team. I know it will take some time for the new names to sink in and I do not want us to miss any positions or P&L.

Thanks for your help on this.

New:

Scott Neal : East Northeast

Dick Jenkins: East Marketeast

WK

');

INSERT INTO email([from],[to],subject,body) VALUES('david.forster@enron.com', 'eol.wide@enron.com', 'Change to Stack Manager', 'Effective immediately, there is a change to the Stack Manager which will affect any Inactive Child.

An inactive Child with links to Parent products will not have their calculated prices updated until the Child product is Activated.

When the Child Product is activated, the price will be recalculated and updated BEFORE it is displayed on the web.

This means that if you are inputting a basis price on a Child product, you will not see the final, calculated price until you Activate the product, at which time the customer will also see it.

If you have any questions, please contact the Help Desk on:

Americas: 713 853 4357

Europe: + 44 (0) 20 7783 7783

Asia/Australia: +61 2 9229 2300

Dave');

INSERT INTO email([from],[to],subject,body) VALUES('vince.kaminski@enron.com', 'jhh1@email.msn.com', 'Re: Light reading - see pieces beginning on page 7', 'John,

I saw it. Very interesting.

Vince

"John H Herbert" <jhh1@email.msn.com> on 07/28/2000 08:38:08 AM  
To: "Vince J Kaminski" <Vince\_J\_Kaminski@enron.com>  
cc:  
Subject: Light reading - see pieces beginning on page 7

Cheers and have a nice weekend,

JHHerbert

- gd000728.pdf

);  
INSERT INTO email([from],[to],subject,body) VALUES('matthew.lenhart@enron.com',  
'mmmarcotel@equiva.com', 'RE:', 'i will try to line up a pig for you ');  
INSERT INTO email([from],[to],subject,body)  
VALUES('jae.black@enron.com', 'claudette.harvey@enron.com, chaun.roberts@enron.com,  
judy.martinez@enron.com,', 'Disaster Recovery Equipment', 'As a reminder...there are several pieces of equipment  
that are set up on the 30th Floor, as well as on our floor, for the Disaster Recovery Team. PLEASE DO NOT  
TAKE, BORROW OR USE this equipment. Should you need to use another computer system, other than yours, or  
make conference calls please work with your Assistant to help find or set up equipment for you to use.

Thanks for your understanding in this matter.

T.Jae Black

East Power Trading

Assistant to Kevin Presto

off. 713-853-5800

fax 713-646-8272

cell 713-539-4760);

INSERT INTO email([from],[to],subject,body) VALUES('eric.bass@enron.com', 'dale.neuner@enron.com', '5 X  
24', 'Dale,

Have you heard anything more on the 5 X 24s? We would like to get this  
product out ASAP.

Thanks,

Eric);

INSERT INTO email([from],[to],subject,body) VALUES('messenger@smartreminders.com',  
'm..tholt@enron.com', '10% Coupon - PrintPal Printer Cartridges - 100% Guaranteed', '[IMAGE]  
[IMAGE][IMAGE][IMAGE]

Dear SmartReminders Member,

[IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE]

We respect your privacy and are a Certified Participant of the BBBOnLine  
Privacy Program. To be removed from future offers,click here.

SmartReminders.com is a permission based service. To unsubscribe click here . ');

INSERT INTO email([from],[to],subject,body) VALUES('benjamin.rogers@enron.com',  
'mark.bernstein@enron.com', ", 'The guy you are talking about left CIN under a "cloud of suspicion" sort of  
speak. He was the one who got into several bad deals and PPA's in California  
for CIN, thus he left on a bad note. Let me know if you need more detail  
than that, I felt this was the type of info you were looking for. Thanks!

Ben');

INSERT INTO email([from],[to],subject,body)

VALUES('enron\_update@concreworkplace.com', 'michelle.cash@enron.com', 'Expense Report Receipts Not  
Received', 'Employee Name: Michelle Cash

Report Name: Houston Cellular 8-11-01

Report Date: 12/13/01

Report ID: 594D37C9ED2111D5B452

Submitted On: 12/13/01

You are only allowed 2 reports with receipts outstanding. Your expense reports will not be paid until you meet this  
requirement.');

INSERT INTO email([from],[to],subject,body) VALUES('susan.mara@enron.com', 'ray.alvarez@enron.com,  
mark.palmer@enron.com, karen.denne@enron.com', 'CAISO Emergency Motion -- to discontinue market-based  
rates for', 'FYI. the latest broadside against the generators.

Sue Mara  
Enron Corp.  
Tel: (415) 782-7802  
Fax:(415) 782-7854

----- Forwarded by Susan J Mara/NA/Enron on 06/08/2001 12:24 PM -----

"Milner, Marcie" <MMilner@coral-energy.com> 06/08/2001 11:13 AM To: ""smara@enron.com""  
<smara@enron.com> cc: Subject: CAISO Emergency Motion

Sue, did you see this emergency motion  
the CAISO filed today? Apparently  
they are requesting that FERC discontinue market-based rates immediately and  
grant refunds plus interest on the difference between cost-based rates and  
market revenues received back to May 2000. They are requesting the  
commission act within 14 days. Have you heard anything about what they are  
doing?

Marcie

<http://www.caiso.com/docs/2001/06/08/200106081005526469.pdf>

);

INSERT INTO email([from],[to],subject,body) VALUES('fletcher.sturm@enron.com', 'eloy.escobar@enron.com',  
'Re: General Brinks Position Meeting', 'Eloy,

Who is General Brinks?

Fletch);

INSERT INTO email([from],[to],subject,body) VALUES('nailia.dindarova@enron.com',  
'richard.shapiro@enron.com', 'Documents for Mark Frevert (on EU developments and lessons from', 'Rick,

Here are the documents that Peter has prepared for Mark Frevert.

Nailia

----- Forwarded by Nailia Dindarova/LON/ECT on 25/06/2001

16:36 -----

Nailia Dindarova

25/06/2001 15:36

To:

Michael Brown/Enron@EUEnronXGate

cc: Ross Sankey/Enron@EUEnronXGate, Eric Shaw/ENRON@EUEnronXGate, Peter  
Styles/LON/ECT@ECT

Subject: Documents for Mark Frevert (on EU developments and lessons from

California)

Michael,

These are the documents that Peter promised to give to you for Mark Frevert. He has now handed them to him in person but asked me to transmit them electronically to you, as well as Eric and Ross.

Nailia

);

```
INSERT INTO email([from],[to],subject,body) VALUES('peggy.a.kostial@accenture.com',  
'dave.samuels@enron.com', 'EOL-Accenture Deal Sheet', 'Dave -
```

Attached are our comments and suggested changes. Please call to review.

On the time line for completion, we have four critical steps to complete:

- Finalize market analysis to refine business case, specifically  
projected revenue stream
- Complete counterparty surveying, including targeting 3 CPs for letters  
of intent
- Review Enron asset base for potential reuse/ licensing  
Contract  
negotiations

Joe will come back to us with an updated time line, but it is my expectation that we are still on the same schedule (we just begun week three) with possibly a week or so slippage.....contract negotiations will probably be the critical path.

We will send our cut at the actual time line here shortly. Thanks,

Peggy

(See attached file: accenture-dealpoints v2.doc)

- accenture-dealpoints v2.doc ');

```
INSERT INTO email([from],[to],subject,body) VALUES('thomas.martin@enron.com', 'thomas.martin@enron.com',  
'Re: Guadalupe Power Partners LP', '----- Forwarded by Thomas A Martin/HOU/ECT on 03/20/2001  
03:49 PM -----
```

Thomas A Martin  
10/11/2000 03:55 PM

To: Patrick Wade/HOU/ECT@ECT  
cc:  
Subject: Re: Guadalupe Power Partners LP

The deal is physically served at Oasis Waha or Oasis Katy and is priced at either HSC, Waha or Katytailgate GD at buyers option three days prior to NYMEX close.

);  
INSERT INTO email([from],[to],subject,body)  
VALUES('judy.townsend@enron.com', 'dan.junek@enron.com, chris.germany@enron.com', 'Columbia Distribution's Capacity Available for Release - Sum', '----- Forwarded by Judy Townsend/HOU/ECT on 03/09/2001 11:04 AM -----

agoddard@nsource.com on 03/08/2001 09:16:57 AM  
To: " - \*Koch, Kent" <kkoch@nsource.com>, " -  
\*Millar, Debra" <dmillar@nsource.com>, " - \*Burke, Lynn"  
<lburke@nsource.com>  
cc: " - \*Heckathorn, Tom" <heckathorn@nsource.com>  
Subject: Columbia Distribution's Capacity Available for Release - Sum

Attached is Columbia Distribution's notice of capacity available for release for the summer of 2001 (Apr. 2001 through Oct. 2001).

Please note that the deadline for bids is 3:00pm EST on March 20, 2001.

If you have any questions, feel free to contact any of the representatives listed at the bottom of the attachment.

Aaron Goddard

- 2001Summer.doc

);  
INSERT INTO  
email([from],[to],subject,body) VALUES('rhonda.denton@enron.com', 'tim.belden@enron.com, dana.davis@enron.com, genia.fitzgerald@enron.com,', 'Split Rock Energy LLC', 'We have received the executed EEI contract from this CP dated 12/12/2000.  
Copies will be distributed to Legal and Credit.');

INSERT INTO email([from],[to],subject,body) VALUES('kerrymcelroy@dwt.com', 'jack.speer@alcoa.com, crow@millernash.com, michaelearly@earthlink.net,', 'Oral Argument Request', ' - Oral Argument Request.doc');



INSERT INTO email([from],[to],subject,body) VALUES('mike.carson@enron.com', 'rlmichaelis@hormel.com', ",  
'Did you come in town this wk end..... My new number at our house is :  
713-668-3712..... my cell # is 281-381-7332

the kid');

INSERT INTO email([from],[to],subject,body) VALUES('cooper.richey@enron.com', 'trycooper@hotmail.com',  
'FW: Contact Info', '

-----Original Message-----

From: Punja, Karim  
Sent: Thursday, December 13, 2001 2:35 PM  
To: Richey, Cooper  
Subject: Contact Info

Cooper,

Its

been a real pleasure working with you (even though it was for only a small amount of time)  
I hope we can stay in touch.

Home# 234-0249  
email: kpunja@hotmail.com

Take Care,

Karim.

');

INSERT INTO email([from],[to],subject,body) VALUES('bjm30@earthlink.net', 'mcguinn.k@enron.com,  
mcguinn.ian@enron.com, mcguinn.stephen@enron.com,', 'email address change', 'Hello all.

I haven't talked to many of you via email recently but I do want to give you  
my new address for your email file:

bjm30@earthlink.net

I hope all is well.

Brian McGuinn');

INSERT INTO email([from],[to],subject,body) VALUES('shelley.corman@enron.com', 'steve.hotte@enron.com',  
'Flat Panels', 'Can you please advise what is going on with the flat panels that we had planned to distribute to our gas  
logistics team. It was in the budget and we had the okay, but now I'm hearing there is some hold-up & the units are  
stored on 44.

Shelley');

INSERT INTO email([from],[to],subject,body) VALUES('sara.davidson@enron.com',  
'john.schwartzenburg@enron.com, scott.dieball@enron.com, recipients@enron.com,', '2001 Enron Law Conference  
(Distribution List 2)', ' Enron Law Conference

San Antonio, Texas May 2-4, 2001 Westin Riverwalk

See attached memo for more details!!

? Registration for the law conference this year will be handled through an Online RSVP Form on the Enron Law Conference Website at <http://lawconference.corp.enron.com>. The website is still under construction and will not be available until Thursday, March 15, 2001.

? We will send you another e-mail to confirm when the Law Conference Website is operational.

? Please complete the Online RSVP Form as soon as it is available and submit it no later than Friday, March 30th.

');

INSERT INTO email([from],[to],subject,body) VALUES('tori.kuykendall@enron.com', 'heath.b.taylor@accenture.com', 'Re:', 'hey - thats funny about john - he definitely remembers him - i'll call pat and let him know - we are coming on saturday - i just havent had a chance to call you guys back -- looking forward to it -- i probably need the directions again though');

INSERT INTO email([from],[to],subject,body) VALUES('darron.giron@enron.com', 'bryce.baxter@enron.com', 'Re: Feedback for Audrey Cook', 'Bryce,

I'll get it done today.

DG 3-9573

From: Bryce Baxter 06/12/2000 07:15 PM

To: Darron C Giron/HOU/ECT@ECT

cc:

Subject: Feedback for Audrey Cook

You were identified as a reviewer for Audrey Cook. If possible, could you complete her feedback by end of business Wednesday? It will really help me in the PRC process to have your input. Thanks.

);  
INSERT INTO email([from],[to],subject,body) VALUES('casey.evans@enron.com', 'stephanie.sever@enron.com',  
'Gas EOL ID', 'Stephanie,

In conjunction with the recent movement of several power traders, they are changing the names of their gas books as well. The names of the new gas books and traders are as follows:

PWR-NG-LT-SPP:

Mike Carson

PWR-NG-LT-SERC: Jeff King

If you need to know their power desk to map their ID to their gas books, those desks are as follows:

EPMI-LT-SPP: Mike Carson

EPMI-LT-SERC: Jeff King

I will be in training this afternoon, but will be back when class is over. Let me know if you have any questions.

Thanks for your help!

Casey');

INSERT INTO email([from],[to],subject,body) VALUES('darrell.schoolcraft@enron.com',  
'david.roensch@enron.com, kimberly.watson@enron.com, michelle.lokay@enron.com,', 'Postings', 'Please see the  
attached.

ds

);

INSERT INTO email([from],[to],subject,body) VALUES('mcominsky@aol.com', 'cpatman@bracepatt.com,  
james\_derrick@enron.com', 'Jurisprudence Luncheon', 'Carrin & Jim --

It was an honor and a pleasure to meet both of you yesterday. I know we will have fun working together on this very special event.

Jeff left the jurisprudence luncheon lists for me before he left on vacation.

I wasn't sure whether he transmitted them

to you as well. Would you please

advise me if you would like them sent to you? I can email the MS Excel files or I can fax the hard copies to you. Please advise what is most convenient.

I plan to be in town through the holidays and can be reached by phone, email, or cell phone at any time. My cell phone number is 713/705-4829.

Thanks again for your interest in the ADL's work. Martin.

Martin B. Cominsky  
Director, Southwest Region  
Anti-Defamation League  
713/627-3490, ext. 122  
713/627-2011 (fax)  
MCominsky@aol.com');

INSERT INTO email([from],[to],subject,body) VALUES('phillip.love@enron.com', 'todagost@utmb.edu, gbsonnta@utmb.edu', 'New President', 'I had a little bird put a word in my ear. Is there any possibility for Ben Raimer to be Bush's secretary of HHS? Just curious about that infamous UTMB rumor mill. Hope things are well, happy holidays.

PL');

INSERT INTO email([from],[to],subject,body) VALUES('marie.heard@enron.com', 'ehamilton@fna.com', 'ISDA Master Agreement',  
'Erin:

Pursuant to your request, attached are the Schedule to the ISDA Master Agreement, together with Paragraph 13 to the ISDA Credit Support Annex. Please let me know if you need anything else. We look forward to hearing your comments.

Marie

Marie Heard  
Senior Legal Specialist  
Enron North America Corp.  
Phone: (713) 853-3907  
Fax: (713) 646-3490  
marie.heard@enron.com

');

INSERT INTO email([from],[to],subject,body) VALUES('andrea.ring@enron.com', 'beverly.beaty@enron.com',  
'Re: Tennessee Buy - Louis Dreyfus', 'Beverly - once again thanks so much for your help on this.

');

INSERT INTO email([from],[to],subject,body) VALUES('karolyn.criado@enron.com', 'j..bonin@enron.com, felicia.case@enron.com, b..clapp@enron.com', 'Price List week of Oct. 8-9, 2001', '

Please contact me if you have any questions regarding last weeks prices.

Thank you,  
Karolyn Criado  
3-9441

');

INSERT INTO email([from],[to],subject,body)

VALUES('kevin.presto@enron.com', 'edward.baughman@enron.com, billy.braddock@enron.com', 'Associated',  
'Please begin working on filling our Associated short position in 02. I would like to take this risk off the books.

In addition, please find out what a buy-out of VEPCO would cost us. With Rogers transitioning to run our retail risk management, I would like to clean up our customer positions.

We also need to continue to explore a JEA buy-out.

Thanks.');

INSERT INTO email([from],[to],subject,body) VALUES('stacy.dickson@enron.com', 'gregg.penman@enron.com',  
'RE: Constellation TC 5-7-01', 'Gregg,

I am at home with a sick baby. (Lots of fun!) I will call you about this tomorrow.

Stacy');

INSERT INTO email([from],[to],subject,body) VALUES('joe.quenet@enron.com', 'dfincher@utilicorp.com', ", 'hey  
big guy.....check this out.....

w ww.gorelieberman-2000.com/');

INSERT INTO email([from],[to],subject,body) VALUES('k..allen@enron.com', 'jacqestc@aol.com', ",  
'Jacques,

I sent you a fax of Kevin Kolb's comments on the release. The payoff on the note would be \$36,248 (\$36090(principal) + \$158 (accrued interest)).

This is assuming we wrap this up on Tuesday.

Please email to confirm that their changes are ok so I can set up a meeting on Tuesday to reach closure.

Phillip');

INSERT INTO email([from],[to],subject,body) VALUES('kourtney.nelson@enron.com',  
'mike.swerzbin@enron.com', 'Adjusted L/R Balance', 'Mike,

I placed the adjusted L/R Balance on the Enronwest site. It is under the "Staff/Kourtney Nelson". There are two links:

- 1) "Adj L\_R" is the same data/format from the weekly strategy meeting.
- 2) "New Gen 2001\_2002" link has all of the supply side info that is used to calculate the L/R balance  
-Please note the Data Flag column, a value of "3" indicates the project was cancelled, on hold, etc and is not included in the calc.

Both of these sheets are interactive Excel spreadsheets and thus you can play around with the data as you please. Also, James Bruce is working to get his gen report on the web. That will help with your access to information on new gen.

Please let me know if you have any questions or feedback,

Kourtney

Kourtney Nelson

Fundamental Analysis

Enron North America

(503) 464-8280

kourtney.nelson@enron.com);

INSERT INTO email([from],[to],subject,body) VALUES('d.thomas@enron.com', 'naveed.ahmed@enron.com',  
'FW: Current Enron TCC Portfolio', '

-----Original Message-----

From: Grace, Rebecca M.

Sent: Monday, December 17, 2001 9:44 AM

To: Thomas, Paul D.

Cc: Cashion, Jim; Allen, Thresa A.; May, Tom

Subject: RE: Current Enron TCC Portfolio

Paul,

I reviewed NY's list. I agree with all of their contracts numbers and mw amounts.

Call if you have any more questions.

Rebecca

-----Original Message-----

From: Thomas, Paul D.

Sent: Monday, December 17, 2001 9:08 AM

To: Grace, Rebecca M.

Subject: FW: Current Enron TCC Portfolio

<< File: enrntccs.xls >>

Rebecca,

Let me know if

you see any differences.

Paul

X 3-0403

-----Original Message-----

From: Thomas, Paul D.

Sent: Monday, December 17, 2001 9:04 AM

To: Ahmed, Naveed

Subject: FW: Current Enron TCC Portfolio

-----Original Message-----

From: Thomas, Paul D.  
Sent: Thursday, December 13, 2001 10:01 AM  
To: Baughman, Edward D.  
Subject: Current Enron TCC Portfolio

);  
INSERT INTO email([from],[to],subject,body) VALUES('stephanie.panus@enron.com',  
'william.bradford@enron.com, debbie.brackett@enron.com,', 'Coastal Merchant Energy/El Paso Merchant Energy',  
'Coastal Merchant Energy, L.P. merged with and into El Paso Merchant Energy,  
L.P., effective February 1, 2001, with the surviving entity being El Paso  
Merchant Energy, L.P. We currently have ISDA Master Agreements with both  
counterparties. Please see the attached memo regarding the existing Masters  
and let us know which agreement should be terminated.

Thanks,  
Stephanie

);  
INSERT INTO email([from],[to],subject,body) VALUES('kam.keiser@enron.com',  
'c..kenne@enron.com', 'RE: What about this too???' , '

-----Original Message-----

From: Kenne, Dawn C.  
Sent: Wednesday, February 06, 2002 11:50 AM  
To: Keiser, Kam  
Subject: What about this too???

<< File: Netco Trader Matrix.xls >>

);  
INSERT INTO email([from],[to],subject,body) VALUES('chris.meyer@enron.com', 'joe.parks@enron.com',  
'Centana', 'Talked to Chip. We do need Cash Committe approval given the netting feature of your deal, which  
means Batch Funding Request. Please update per my previous e-mail and forward.

Thanks

chris  
x31666');  
INSERT INTO email([from],[to],subject,body) VALUES('debra.perlingiere@enron.com',  
'jworman@academyofhealth.com', ', 'Have a great weekend! Happy Fathers Day!

Debra Perlingiere

Enron North America Corp.  
1400 Smith Street, EB 3885  
Houston, Texas 77002  
dperlin@enron.com  
Phone 713-853-7658  
Fax 713-646-3490);

INSERT INTO email([from],[to],subject,body) VALUES('outlook.team@enron.com', '', 'Demo by Martha Janousek of Dashboard & Pipeline Profile / Julia &', 'CALENDAR ENTRY: APPOINTMENT

Description:

Demo by Martha Janousek of Dashboard & Pipeline Profile / Julia & Dir Rpts. - 4102

Date: 1/5/2001

Time: 9:00 AM - 10:00 AM (Central Standard Time)

Chairperson: Outlook Migration Team

Detailed Description:');

INSERT INTO email([from],[to],subject,body) VALUES('diana.seifert@enron.com', 'mark.taylor@enron.com', 'Guest access Chile', 'Hello Mark,

Justin Boyd told me that your can help me with questions regarding Chile.

We got a request for guest access through MG.

The company is called Escondida and is a subsidiary of BHP Australia.

Please advise if I can set up a guest account or not.

F.Y.I.: MG is planning to put a "in w/h Chile" contract for Copper on-line as soon as Enron has done the due diligence for this country.

Thanks !

Best regards

Diana Seifert  
EOL PCG');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concuere workplace.com', 'mark.whitt@enron.com', '<<Concur Expense Document>> - 121001',

'The Approval status has changed on the following report:

Status last changed by: Barry L. Tycholiz

Expense Report Name: 121001

Report Total: \$198.98

Amount Due Employee: \$198.98

Amount Approved: \$198.98

Amount Paid: \$0.00

Approval Status: Approved

Payment Status: Pending



To review this expense report, click on the following link for Concur Expense.

<http://expense.ms.enron.com>);

INSERT INTO email([from],[to],subject,body) VALUES('kevin.hyatt@enron.com', 'Technical Support', 'Outside the U.S.', please refer to the list below:

Australia:

1800 678-515

support@palm-au.com

Canada:

1905 305-6530

support@palm.com

New Zealand:

0800 446-398

support@palm-nz.com

U.K.:

0171 867 0108

eurosupport@palm.3com.com

Please refer to the Worldwide Customer Support card for a complete technical support contact list.');

INSERT INTO email([from],[to],subject,body) VALUES('geoff.storey@enron.com', 'dutch.quigley@enron.com', 'RE:', 'duke contact?')

-----Original Message-----

From: Quigley, Dutch

Sent: Wednesday, October 31, 2001 10:14 AM

To: Storey, Geoff

Subject: RE:

bp corp Albert LaMore 281-366-4962

running the reports now

-----Original Message-----

From: Storey, Geoff

Sent: Wednesday, October 31, 2001 10:10 AM

To: Quigley, Dutch

Subject: RE:

give me a contact over there too

BP

-----Original Message-----

From: Quigley, Dutch  
Sent: Wednesday, October 31, 2001 9:42 AM  
To: Storey, Geoff  
Subject:

Coral Jeff Whitnah 713-767-5374

Relaint Steve McGinn 713-207-4000');

INSERT INTO email([from],[to],subject,body) VALUES('pete.davis@enron.com', 'pete.davis@enron.com', 'Start  
Date: 4/22/01; HourAhead hour: 3; <CODESITE>', 'Start Date: 4/22/01; HourAhead hour: 3; No ancillary  
schedules awarded.

Variances detected.

Variances detected in Load schedule.

LOG MESSAGES:

PARSING FILE -->> O:\Portland\WestDesk\California Scheduling\ISO Final  
Schedules\2001042203.txt

---- Load Schedule ----

\$\$\$ Variance found in table tblLoads.

Details: (Hour: 3 / Preferred:

1.92 / Final: 1.89)

TRANS\_TYPE: FINAL

LOAD\_ID: PGE4

MKT\_TYPE: 2

TRANS\_DATE: 4/22/01

SC\_ID: EPMI

');

INSERT INTO email([from],[to],subject,body) VALUES('john.postlethwaite@enron.com',  
'john.zufferli@enron.com', 'Reference', 'John, hope things are going well up there for you. The big day is almost  
here for you and Jessica. I was wondering if I could use your name as a job reference if need be. I am just trying to  
get everything in order just in case something happens.

John');

INSERT INTO email([from],[to],subject,body) VALUES('jeffrey.shankman@enron.com',  
'Ischiffm@jonesday.com', 'Re:', 'I saw you called on the cell this a.m. Sorry I missed you. (I was in the  
shower). I have had a shitty week--I suspect my silence (not only to you,  
but others) after our phone call is a result of the week. I'm seeing Glen at  
11:15....talk to you');

INSERT INTO email([from],[to],subject,body) VALUES('litebytz@enron.com', ', 'Lite Bytz RSVP', '  
This week's Lite Bytz presentation  
will feature the following TOOLZ speaker:

Richard McDougall

Solaris 8

Thursday, June 7, 2001

If you have not already signed up, please RSVP via email to [litebytz@enron.com](mailto:litebytz@enron.com) by the end of the day Tuesday, June 5, 2001.

\*Remember: this is now a Brown Bag Event--so bring your lunch and we will provide cookies and drinks.

Click below for more details.

<http://home.enron.com:84/messaging/litebytztoolzprint.jpg>);

```
    COMMIT;
  }
} {}
```

```
#####
# Everything above just builds an interesting test database.  The actual
# tests come after this comment.
#####
```

```
do_test fts2c-1.2 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH 'mark'
  }
} {6 17 25 38 40 42 73 74}
do_test fts2c-1.3 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH 'susan'
  }
} {24 40}
do_test fts2c-1.4 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH 'mark
susan'
  }
} {40}
do_test fts2c-1.5 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH 'susan mark'
  }
} {40}
do_test fts2c-1.6 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH "'mark susan'"
  }
} {}
do_test fts2c-1.7 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH 'mark -susan'
```

```

}
} {6 17 25 38 42 73 74}
do_test fts2c-1.8 {
execsql {
    SELECT rowid FROM email WHERE email MATCH '-mark susan'
}
} {24}
do_test fts2c-1.9 {
execsql {
    SELECT rowid FROM email WHERE email MATCH 'mark OR susan'
}
} {6 17 24 25 38 40 42 73 74}

```

# Some simple tests of the automatic "offsets(email)" column. In the sample  
# data set above, only one message, number 20, contains the words  
# "gas" and "reminder" in both body and subject.

```

#
do_test fts2c-2.1 {
execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE email MATCH 'gas reminder'
}
} {20 {2 0 42 3 2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}

```

```

do_test fts2c-2.2 {
execsql {

    SELECT rowid, offsets(email) FROM email
    WHERE email MATCH 'subject:gas reminder'
}
} {20 {2 0 42 3 2 1 54 8 3 1 54 8}}

```

```

do_test fts2c-2.3 {
execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE email MATCH 'body:gas reminder'
}
} {20 {2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}

```

```

do_test fts2c-2.4 {
execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE subject MATCH 'gas reminder'
}
} {20 {2 0 42 3 2 1 54 8}}

```

```

do_test fts2c-2.5 {
execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE body MATCH 'gas reminder'
}
} {20 {3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}

```

```

# Document 32 contains 5 instances of the word "child". But only
# 3 of them are paired with "product". Make sure only those instances
# that match the phrase appear in the offsets(email) list.
#
do_test fts2c-3.1 {
  execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE body MATCH 'child product' AND +rowid=32
  }
} {32 {3 0 94 5 3 0 114 5 3 0
207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7 3 1 493 7}}
do_test fts2c-3.2 {
  execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE body MATCH "'child product'"
  }
} {32 {3 0 207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7}}

# Snippet generator tests
#
do_test fts2c-4.1 {
  execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH 'subject:gas reminder'
  }
} {{Alert Posted 10:00 AM November 20,2000: E-<b>GAS</b> Request <b>Reminder</b>}}
do_test fts2c-4.2 {
  execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH 'christmas candlelight'
  }
} {{<b>...</b> place.? What do you think about going here <b>Christmas</b>
eve?? They have an 11:00 a.m. service and a <b>candlelight</b> service at 5:00 p.m.,
among others. <b>...</b>}}

do_test fts2c-4.3 {
  execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH 'deal sheet potential reuse'
  }
} {{EOL-Accenture <b>Deal</b> <b>Sheet</b> <b>...</b> intent
Review Enron
asset base for <b>potential</b> <b>reuse</b>/ licensing
Contract negotiations <b>...</b>}}
do_test fts2c-4.4 {
  execsql {
    SELECT snippet(email,'<<<','>>>',') FROM email

```

```

WHERE email MATCH 'deal sheet potential reuse'
}
} {{EOL-Accenture <<<Deal>>> <<<Sheet>>> intent
Review Enron asset base for <<<potential>>> <<<reuse>>>/ licensing
Contract negotiations }}
do_test fts2c-4.5 {
execsql {
SELECT snippet(email,'<<<','>>>',') FROM email
WHERE email MATCH 'first things'
}
} {{Re: <<<First>>> Polish Deal! Congrats! <<<Things>>> seem to be building rapidly now on the }}
do_test fts2c-4.6 {
execsql {
SELECT snippet(email) FROM email
WHERE email MATCH 'chris is here'
}
} {{<b>chris</b>.germany@enron.com <b>...</b> Sounds good to me. I bet this <b>is</b> next to the Warick??
Hotel. <b>...</b> place.? What do you think about going <b>here</b> Christmas
eve?? They have an 11:00 a.m. <b>...</b>}}
do_test fts2c-4.7 {
execsql {
SELECT
snippet(email) FROM email
WHERE email MATCH "'pursuant to'"
}
} {{Erin:

<b>Pursuant</b> <b>to</b> your request, attached are the Schedule to <b>...</b>}}
do_test fts2c-4.8 {
execsql {
SELECT snippet(email) FROM email
WHERE email MATCH 'ancillary load davis'
}
} {{pete.<b>davis</b>@enron.com <b>...</b> Start Date: 4/22/01; HourAhead hour: 3; No <b>ancillary</b>
schedules awarded.
Variances detected.
Variances detected in <b>Load</b> schedule.

LOG MESSAGES:

PARSING <b>...</b>}}

# Combinations of AND and OR operators:
#
do_test fts2c-5.1 {
execsql {
SELECT snippet(email) FROM email
WHERE email MATCH 'questar enron OR com'

```

```
}  
} {{matt.smith@<b>enron</b>.<b>com</b> <b>...</b> six reports:
```

31 Keystone Receipts

15 <b>Questar</b> Pipeline

40 Rockies Production

22 West\_2 <b>...</b>}}

```
do_test fts2c-5.2 {
```

```
  execsql {
```

```
    SELECT snippet(email) FROM email
```

```
    WHERE email MATCH 'enron OR com questar'
```

```
  }
```

```
} {{matt.smith@<b>enron</b>.<b>com</b> <b>...</b>
```

```
six reports:
```

31 Keystone Receipts

15 <b>Questar</b> Pipeline

40 Rockies Production

22 West\_2 <b>...</b>}}

```
finish_test
```

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/test/fts2c.test
```

No license file was found, but licenses were detected in source scan.

<a href="copyright.html">public domain</a> and so many people use it

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/famous.html
```

No license file was found, but licenses were detected in source scan.

SQLite core and like the SQLite core are in the public domain. The

The <b><a href="th3.html">TH3</a></b> test harness is a set of proprietary tests, written in

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/testing.html
```

No license file was found, but licenses were detected in source scan.

```
<html>
```

```
<body bgcolor="white">
```

```
<p>FOR IMMEDIATE RELEASE:</p>
```

```
<h2 align="center">SQLite Consortium Launches With Mozilla And Symbian As Charter Members</h2>
```

**Ensures independent technical direction for world's most deployed SQL database engine**

**Charlotte, North Carolina - December 12, 2007** - The SQLite Consortium, a new membership association dedicated to maintaining SQLite as a fully open and independent product, was formally announced today. Mozilla and Symbian Ltd. have joined the SQLite Consortium as charter members.

SQLite is a compact, high efficiency, high reliability, embeddable SQL database engine. The source code to SQLite is in the public domain and is available with no associated fees. SQLite is the most deployed SQL database engine in the world and is currently used in a wide range of commercial software products and electronic devices from leading manufacturers.

SQLite is found today in many mobile phones, MP3 players, set-top boxes, and PCs.

The mission of the SQLite Consortium is to continue developing and enhancing SQLite as a product that anyone may use without paying royalties or licensing fees. Members of the SQLite Consortium provide funding to enable this mission and in return receive enterprise-level technical support. Technical control and direction of SQLite remains entirely with the SQLite developers.

Mozilla, developer of the popular open-source Firefox web browser, and Symbian, the market-leading open operating system for advanced data-enabled smartphones, both deploy the SQLite database engine in their products. As charter members of the Consortium, Mozilla and Symbian are ensuring the development and support of SQLite as a freely accessible and public domain software asset.

"SQLite has become a popular embedded database because it is lightweight, fast, and open source," said Michael Schroepfer, Vice President of Engineering, Mozilla.

"As a charter member of the SQLite Consortium, Mozilla is excited to help ensure SQLite remains a vibrant and open technology, in line with our mission to promote choice and innovation on the Internet."

"The SQLite Consortium will help set the standards for database management which are essential in smartphone functionality and will also help create a pool of developers, highly-skilled in SQLite for future mobile phone development," said Bruce Carney, Director, Developer Programmes & Services, Symbian.

"Our involvement with the SQL Consortium not only demonstrates Symbian's commitment to open standards in the industry, but as mobile phones become increasingly powerful and smartphones become increasingly popular, we are focused on ensuring that desktop developers, who move to the mobile space, have the easiest and most productive experience possible."

SQLite is a winner of the 2005 Google/O'Reilly Open Source Award. Additional information



regarding the SQLite Consortium is available at the SQLite website,  
<http://www.sqlite.org/>.

<center>  
# # #  
</center>

<p><b>About SQLite</b></p>

<p>SQLite is a software library that implements a self-contained, embeddable, serverless, zero-configuration, transactional SQL database engine. The code for SQLite is in the public domain and is free for any use, commercial or private. SQLite is currently found in countless software titles and electronic devices.</p>

<p>SQLite was originally developed and released 2000 by Dr. D. Richard Hipp. The code continues to be maintained and enhanced by an international team of developers under Hipp's direction.</p>

<p>  
CONTACT INFORMATION:<br>  
SQLite Consortium<br>  
Dr. D. Richard Hipp<br>  
6200 Maple Cove Lane<br>  
Charlotte, NC 28269<br>  
Email: [drh@sqlite.org](mailto:drh@sqlite.org)<br>  
<http://www.sqlite.org/><br>  
Tel: +1.704.948.4565  
</p>

<p><b>About Mozilla</b></p>

<p>Mozilla is a global community dedicated to building free, open source products and technologies that improve the online experience for people everywhere. Mozilla works in the open with a highly disciplined, transparent and cooperative development process, under the umbrella of the non-profit Mozilla Foundation. As a wholly owned subsidiary, the Mozilla Corporation organizes the development and marketing of Mozilla products. This unique structure has enabled Mozilla to financially support and cultivate competitive, viable community innovation. For more information, visit [www.mozilla.com](http://www.mozilla.com).</p>

<p>CONTACT INFORMATION:<br>  
Mozilla Corporation<br>  
Jessica Waight<br>  
Tel: +1.415.345.4754<br>  
Email: [jwaight@outcastpr.com](mailto:jwaight@outcastpr.com)

</p>

<p><b>About Symbian Limited</b></p>

<p>Symbian is a software licensing company that develops and licenses Symbian OS, the market-leading open operating system for advanced, data-enabled mobile phones known as smartphones.</p>

<p>Symbian licenses Symbian OS to the world's leading handset manufacturers and has built close co-operative business relationships with leading companies across the mobile industry. During Q3 2007, 20.4 million Symbian smartphones were sold worldwide to over 250 major network operators, bringing the total number of Symbian smartphones shipped up to 30 September 2007 to 165 million.</p>

<p>Symbian has its headquarters in London, United Kingdom, with offices in the United States, United Kingdom, Asia (India, P.R. China, and Korea) and Japan. For more information, please visit [www.symbian.com](http://www.symbian.com).</p>

<p>CONTACT INFORMATION:<br>

Symbian Global Press Office<br>

Karen Hamblen<br>

+44 207 154 1707<br>

[press@symbian.com](mailto:press@symbian.com)

</p>

</body></html>

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/pressrelease-20071212.html

No license file was found, but licenses were detected in source scan.

application is free to use the same <a href="#sqlite3">database connection</a> or the

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/capi3ref.html

No license file was found, but licenses were detected in source scan.

/\*

\*\* Return a pointer to the "temporary page" buffer held internally  
\*\* by the pager. This is a buffer that is big enough to hold the  
\*\* entire content of a database page. This buffer is used internally  
\*\* during rollback and will be overwritten whenever a rollback  
\*\* occurs. But other modules are free to use it too, as long as  
\*\* no rollbacks are happening.

\*/

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/src/pager.c

No license file was found, but licenses were detected in source scan.

<a href="copyright.html">public domain</a>.</p>

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/index.html

No license file was found, but licenses were detected in source scan.

SQLite is high-quality, public domain software. The goal of members can also request their own private, proprietary extensions

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/consortium.html

No license file was found, but licenses were detected in source scan.

<html>

<body bgcolor="white">

<h1 align="center">

Copyright Release for<br>

Contributions To SQLite

</h1>

<p>

SQLite is software that implements an embeddable SQL database engine.

SQLite is available for free download from <http://www.sqlite.org/>.

The principal author and maintainer of SQLite has disclaimed all copyright interest in his contributions to SQLite

and thus released his contributions into the public domain.

In order to keep the SQLite software unencumbered by copyright

claims, the principal author asks others who may from time to

time contribute changes and enhancements to likewise disclaim

their own individual copyright interest.

</p>

<p>

Because the SQLite software found at <http://www.sqlite.org/> is in the

public domain, anyone is free to download the SQLite software

from that website, make changes to the software, use, distribute,

or sell the modified software, under either the original name or

under

some new name, without any need to obtain permission, pay

royalties, acknowledge the original source of the software, or

in any other way compensate, identify, or notify the original authors. Nobody is in any way compelled to contribute their SQLite changes and enhancements back to the SQLite website. This document concerns only changes and enhancements to SQLite that are intentionally and deliberately contributed back to the SQLite website.

</p>

<p>

For the purposes of this document, "SQLite software" shall mean any computer source code, documentation, makefiles, test scripts, or other information that is published on the SQLite website, <http://www.sqlite.org/>. Precompiled binaries are excluded from the definition of "SQLite software" in this document because the process of compiling the software may introduce information from outside sources which is not properly a part of SQLite.

</p>

<p>

The header comments on the SQLite source files exhort the reader to share freely and

to never take more than one gives.

In the spirit of that exhortation I make the following declarations:

</p>

<ol>

<li><p>

I dedicate to the public domain

any and all copyright interest in the SQLite software that was publicly available on the SQLite website (<http://www.sqlite.org/>) prior to the date of the signature below and any changes or enhancements to the SQLite software

that I may cause to be published on that website in the future.

I make this dedication for the benefit of the public at large and to the detriment of my heirs and successors. I intend this dedication to be an overt act of relinquishment in perpetuity of all present and future rights to the SQLite software under copyright law.

</p></li>

<li><p>

To the best of my knowledge and belief, the changes and enhancements that I have contributed to SQLite are either originally written by me or are derived from prior works which I have verified are also in the public domain and are not subject to claims of copyright by other

parties.

</p></li>

<li><p>

To the best of my knowledge and belief, no individual, business, organization, government, or other entity has any copyright interest in the SQLite software as it existed on the SQLite website as of the date on the signature line below.

</p></li>

<li><p>

I agree never to publish any additional information to the SQLite website (by CVS, email, scp, FTP, or any other means) unless that information is an original work of authorship by me or is derived from prior published versions of SQLite.

I agree never to copy and paste code into the SQLite code base from other sources.

I agree never to publish on the SQLite website any information that would violate a law or breach a contract.

</p></li>

</ol>

<p>

<table width="100%" cellpadding="0" cellspacing="0">

<tr>

<td width="60%" valign="top">

Signature:

<p>&nbsp;</p>

<p>&nbsp;</p>

<p>&nbsp;</p>

</td><td valign="top" align="left">

Date:

</td></tr>

<td colspan=2>

Name (printed):

</td>

</tr>

</table>

</body>

</html>

Found

in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/copyright-release.html

No license file was found, but licenses were detected in source scan.

<p><b>Public domain</b></p>

The source code for SQLite is in the public domain. No claim of copyright

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite\_docs\_3\_6\_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3\_6\_20-docs/different.html  
No license file was found, but licenses were detected in source scan.

# 2006 September 14

#

# The author disclaims copyright to this source code. In place of  
# a legal notice, here is a blessing:

#

# May you do good and not evil.

# May you find forgiveness for yourself and forgive others.

# May you share freely, never taking more than you give.

#

\*\*\*\*\*

# This file implements regression tests for SQLite library. The

# focus of this script is testing the FTS1 module.

#

# \$Id: fts1c.test,v 1.11 2006/10/04 17:35:28 drh Exp \$

#

set testdir [file dirname \$argv0]

source \$testdir/tester.tcl

# If SQLITE\_ENABLE\_FTS1 is defined, omit this file.

ifcapable !fts1 {

finish\_test

return

}

# Create a table of sample email data. The data comes from email

# archives of Enron executives that was published as part of the

# litigation against that company.

#

do\_test fts1c-1.1 {

db eval {

CREATE VIRTUAL TABLE email

USING fts1([from],[to],subject,body);

BEGIN TRANSACTION;

INSERT INTO email([from],[to],subject,body) VALUES('savita.puthigai@enron.com', 'traders.eol@enron.com,  
traders.eol@enron.com', 'EnronOnline- Change to Autohedge', 'Effective Monday, October 22, 2001 the following  
changes will be made to the Autohedge functionality on EnronOnline.

The volume on the hedge will now respect the minimum volume and volume increment settings on the parent  
product. See rules below:

? If the transaction volume on the child is less than half of the parent's minimum volume no hedge will occur.

? If the transaction volume on the child is more than half the parent's minimum volume but less than half the volume  
increment on the parent, the hedge will volume will be the parent's minimum volume.

? For all other volumes, the same rounding rules will apply based on the volume increment on the parent product.

Please see example below:

Parent's Settings:

Minimum: 5000

Increment: 1000

Volume on Autohedge

transaction Volume Hedged

1 - 2499 0

2500 - 5499 5000

5500 - 6499 6000');

INSERT INTO email([from],[to],subject,body) VALUES('dana.davis@enron.com', 'laynie.east@enron.com, lisa.king@enron.com, lisa.best@enron.com,', 'Leaving Early', 'FYI:

If it's ok with everyone's needs, I would like to leave @4pm. If you think you will need my assistance past the 4 o'clock hour just let me know; I'll be more than willing to stay.');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concuere workplace.com', 'louise.kitchen@enron.com', '<<Concur Expense Document>> - CC02.06.02', 'The following expense report is ready for approval:

Employee Name: Christopher F. Calger

Status last changed by: Mollie E. Gustafson Ms

Expense Report Name: CC02.06.02

Report Total: \$3,972.93

Amount Due Employee: \$3,972.93

To approve this expense report, click on the following link for Concur Expense.

<http://expense.ms.enron.com>');

INSERT INTO email([from],[to],subject,body)

VALUES('jeff.duff@enron.com', 'julie.johnson@enron.com', 'Work request', 'Julie,

Could you print off the current work request report by 1:30 today?

Gentlemen,

I'd like to review this today at 1:30 in our office. Also, could you provide me with your activity reports so I can have Julie enter this information.

JD');

INSERT INTO email([from],[to],subject,body) VALUES('v.weldon@enron.com', 'gary.l.carrier@usa.dupont.com, scott.joyce@bankofamerica.com', 'Enron News', 'This could turn into something big....

<http://biz.yahoo.com/rf/010129/n29305829.html>');

INSERT INTO email([from],[to],subject,body) VALUES('mark.haedicke@enron.com', 'paul.simons@enron.com', 'Re: First Polish Deal!', 'Congrats! Things seem to be building rapidly now on the Continent. Mark');

INSERT INTO email([from],[to],subject,body) VALUES('e.carter@enron.com', 't..robinson@enron.com', 'FW:

Producers Newsletter 9-24-2001', '

The producer lumber pricing sheet.

-----Original Message-----

From: Johnson, Jay

Sent: Tuesday,

October 16, 2001 3:42 PM

To: Carter, Karen E.

Subject: FW: Producers Newsletter 9-24-2001

-----Original Message-----

From: Daigre, Sergai

Sent: Friday, September 21, 2001 8:33 PM

Subject: Producers Newsletter 9-24-2001

');

INSERT INTO email([from],[to],subject,body) VALUES('david.delainey@enron.com', 'kenneth.lay@enron.com', 'Greater Houston Partnership', 'Ken, in response to the letter from Mr Miguel San Juan, my suggestion would be to offer up the Falcon for their use; however, given the tight time frame and your recent visit with Mr. Fox that it would be difficult for either you or me to participate.

I spoke to Max and he agrees with this approach.

I hope this meets with your approval.

Regards

Delainey');

INSERT INTO email([from],[to],subject,body) VALUES('lachandra.fenceroy@enron.com', 'lindy.donoho@enron.com', 'FW: Bus Applications Meeting Follow Up', 'Lindy,

Here is the original memo we discussed earlier. Please provide any information that you may have.

Your cooperation is greatly appreciated.

Thanks,

lachandra.fenceroy@enron.com

713.853.3884

877.498.3401 Pager

-----Original Message-----

From: Bisbee, Joanne

Sent: Wednesday, September 26, 2001 7:50 AM

To: Fenceroy, LaChandra

Subject: FW: Bus Applications Meeting Follow Up



Lachandra, Please get with David Duff today and see what this is about. Who are our TW accounting business users?

-----Original Message-----

From: Koh, Wendy  
Sent: Tuesday, September 25, 2001 2:41 PM  
To: Bisbee, Joanne  
Subject: Bus Applications Meeting Follow Up

Lisa brought up a TW change effective Nov 1. It involves eliminating a turnback surcharge. I have no other information, but you might check with the business folks for any system changes required.

Wendy');

INSERT INTO email([from],[to],subject,body) VALUES('danny.mccarty@enron.com', 'fran.fagan@enron.com', 'RE: worksheets', 'Fran,

If Julie's merit needs to be lump sum, just move it over to that column. Also, send me Eric Gadd's sheets as well. Thanks.

Dan

-----Original Message-----

From: Fagan, Fran  
Sent: Thursday, December 20, 2001 11:10 AM  
To: McCarty, Danny  
Subject: worksheets

As discussed, attached are your sheets for bonus and merit.

Thanks,

Fran Fagan  
Sr. HR Rep  
713.853.5219

<< File: McCartyMerit.xls >> << File: mccartyBonusCommercial\_UnP.xls >>

');

INSERT INTO email([from],[to],subject,body) VALUES('bert.meyers@enron.com', 'shift.dl-portland@enron.com', 'OCTOBER SCHEDULE', 'TEAM,

PLEASE SEND ME ANY REQUESTS THAT YOU HAVE FOR OCTOBER. SO FAR I HAVE THEM FOR LEAF. I WOULD LIKE TO HAVE IT DONE BY THE 15TH OF THE MONTH. ANY QUESTIONS PLEASE GIVE ME A CALL.

BERT');

INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com', 'john.arnold@enron.com, bilal.bajwa@enron.com, john.griffith@enron.com,', 'TRV Notification: (NG - PROPT P/L - 09/27/2001)', 'The

report named: NG - PROPT P/L <[http://trv.corp.enron.com/linkFromExcel.asp?report\\_cd=11&report\\_name=NG+-+PROPT+P/L&category\\_cd=5&category\\_name=FINANCIAL&toc\\_hide=1&sTV1=5&TV1Exp=Y&current\\_efct\\_d ate=09/27/2001](http://trv.corp.enron.com/linkFromExcel.asp?report_cd=11&report_name=NG+-+PROPT+P/L&category_cd=5&category_name=FINANCIAL&toc_hide=1&sTV1=5&TV1Exp=Y&current_efct_d ate=09/27/2001)>,

published as of 09/27/2001 is now available for viewing on the website.);

INSERT INTO email([from],[to],subject,body) VALUES('patrice.mims@enron.com', 'calvin.eakins@enron.com', 'Re: Small business supply assistance', 'Hi Calvin

I spoke with Rickey (boy, is he long-winded!!). Gave him the name of our credit guy, Russell Diamond.

Thank for your help!');

INSERT INTO email([from],[to],subject,body) VALUES('legal <.hall@enron.com>', 'stephanie.panus@enron.com', 'Termination update', 'City of Vernon and Salt River Project terminated their contracts. I will fax these notices to you.);

INSERT INTO email([from],[to],subject,body) VALUES('d..steffes@enron.com', 'richard.shapiro@enron.com', 'EES / ENA Government Affairs Staffing & Outside Services', 'Rick --

Here is the information on staffing and outside services. Call if you need anything else.

Jim

');

INSERT INTO email([from],[to],subject,body)

VALUES('gelliott@industrialinfo.com', 'pcopello@industrialinfo.com', 'ECAAR (Gavin), WSCC (Diablo Canyon), & NPCC (Seabrook)', 'Dear Power Outage Database Customer,

Attached you will find an excel document. The outages contained within are forced or rescheduled outages. Your daily delivery will still contain these outages.

In addition to the two excel documents, there is a dbf file that is formatted like your daily deliveries you receive nightly. This will enable you to load the data into your regular database. Any questions please let me know. Thanks.

Greg Elliott

IIR, Inc.

713-783-5147 x 3481

outages@industrialinfo.com

THE INFORMATION CONTAINED IN THIS E-MAIL IS LEGALLY PRIVILEGED AND CONFIDENTIAL INFORMATION INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ABOVE. YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION, OR COPY OF THIS E-MAIL TO UNAUTHORIZED ENTITIES IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS E-MAIL IN ERROR, PLEASE DELETE IT.

- OUTAGE.dbf

- 111201R.xls

- 111201.xls ');

INSERT INTO email([from],[to],subject,body) VALUES('enron.announcements@enron.com', 'all\_ena\_egm\_eim@enron.com', 'EWS Brown Bag', 'MARK YOUR LUNCH CALENDARS NOW !

You are invited to attend the EWS Brown Bag Lunch Series

Featuring: RAY BOWEN, COO

Topic: Enron Industrial Markets

Thursday, March 15, 2001

11:30 am - 12:30 pm

EB 5 C2

You bring your lunch, Limited Seating

We provide drinks and dessert. RSVP x 3-9610);

INSERT INTO email([from],[to],subject,body) VALUES('chris.germany@enron.com',  
'ingrid.immer@williams.com', 'Re: About St Pauls', 'Sounds good to me. I bet this is next to the Warick?? Hotel.

"Immer, Ingrid" <Ingrid.Immer@Williams.com> on 12/21/2000 11:48:47 AM

To: "'chris.germany@enron.com'" <chris.germany@enron.com>

cc:

Subject: About St Pauls

<<About St Pauls.url>>

?

?http://www.stpaulshouston.org/about.html

Chris,

I like the looks of this place.? What do you think about going  
here Christmas

eve?? They have an 11:00 a.m. service and a candlelight service at 5:00 p.m.,  
among others.

Let me know.?? ii

- About St Pauls.url

);

INSERT INTO email([from],[to],subject,body) VALUES('nas@cpuc.ca.gov', 'skatz@sempratradng.com,  
kmccrea@sablau.com, thompson@wrightlaw.com', 'Reply Brief filed July 31, 2000', '- CPUC01-#76371-v1-  
Revised\_Reply\_Brief\_\_Due\_today\_7\_31\_.doc');

INSERT INTO email([from],[to],subject,body) VALUES('gascontrol@aglresources.com', 'dscott4@enron.com,  
lcampbel@enron.com', 'Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder', 'Alert Posted 10:00  
AM November 20,2000: E-GAS Request Reminder

As discussed in the Winter Operations Meeting on Sept.29,2000,

E-Gas(Emergency Gas) will not be offered this winter as a service from AGLC.

Marketers and Poolers can receive gas via Peaking and IBSS nominations(daisy chain) from other marketers up to the 6 p.m. Same Day 2 nomination cycle.

');

INSERT INTO email([from],[to],subject,body) VALUES('dutch.quigley@enron.com', 'rwolkwitz@powermerchants.com', ', ')

Here is a goody for you');

INSERT INTO email([from],[to],subject,body) VALUES('ryan.o.rourke@enron.com', 'k.allen@enron.com, randy.bhatia@enron.com, frank.ermis@enron.com,', 'TRV Notification: (West VaR - 11/07/2001)', 'The report named: West VaR

<[http://trv.corp.enron.com/linkFromExcel.asp?report\\_cd=36&report\\_name=West+VaR&category\\_cd=2&category\\_name=WEST&toc\\_hide=1&sTV1=2&TV1Exp=Y&current\\_efct\\_date=11/07/2001](http://trv.corp.enron.com/linkFromExcel.asp?report_cd=36&report_name=West+VaR&category_cd=2&category_name=WEST&toc_hide=1&sTV1=2&TV1Exp=Y&current_efct_date=11/07/2001)>, published as of 11/07/2001 is now available for viewing on the website.');

INSERT INTO email([from],[to],subject,body) VALUES('mjones7@txu.com', 'cstone1@txu.com, ggreen2@txu.com, timpowell@txu.com,', 'Enron / HPL Actuals for July 10, 2000', 'Teco Tap 10.000 / Enron ; 110.000 / HPL IFERC

LS HPL LSK IC 30.000 / Enron

');

INSERT INTO email([from],[to],subject,body) VALUES('susan.pereira@enron.com', 'kkw816@aol.com', 'soccer practice', 'Kathy-

Is it safe to assume that practice is cancelled for tonight??

Susan Pereira');

INSERT INTO email([from],[to],subject,body) VALUES('mark.whitt@enron.com', 'barry.tycholiz@enron.com', 'Huber Internal Memo', 'Please look at this. I didn't know how deep to go with the desk. Do you think this works.

');

INSERT INTO email([from],[to],subject,body) VALUES('m.forney@enron.com', 'george.phillips@enron.com', ', 'George,

Give me a call and we will further discuss opportunities on the 13st floor.

Thanks,

JMForney

3-7160');

INSERT INTO email([from],[to],subject,body) VALUES('brad.mckay@enron.com', 'angusmcka@aol.com', 'Re: (no subject)', 'not yet');

INSERT INTO email([from],[to],subject,body) VALUES('adam.bayer@enron.com', 'jonathan.mckay@enron.com', 'FW: Curve Fetch File', 'Here is the curve fetch file sent to me. It has plenty of points in it. If you give me a list of which ones you need we may be able to construct a secondary worksheet to vlookup the values.

adam

35227

-----Original Message-----

From: Royed, Jeff  
Sent: Tuesday,  
September 25, 2001 11:37 AM  
To: Bayer, Adam  
Subject: Curve Fetch File

Let me know if it works. It may be required to have a certain version of Oracle for it to work properly.

Jeff Royed

Enron

Energy Operations

Phone: 713-853-5295);

INSERT INTO email([from],[to],subject,body) VALUES('matt.smith@enron.com', 'yan.wang@enron.com', 'Report Formats', 'Yan,

The merged reports look great. I believe the only orientation changes are to "unmerge" the following six reports:

31 Keystone Receipts  
15 Questar Pipeline  
40 Rockies Production  
22 West\_2  
23 West\_3  
25 CIG\_WIC

The orientation of the individual reports should be correct. Thanks.

Mat

PS. Just a reminder to add the "\*" by the title of calculated points.');

INSERT INTO email([from],[to],subject,body) VALUES('michelle.lokay@enron.com', 'jimboman@bigfoot.com', 'Egyptian Festival', '----- Forwarded by Michelle Lokay/ET&S/Enron on 09/07/2000 10:08 AM -----

"Karkour, Randa" <Randa.Karkour@COMPAQ.com>

on 09/07/2000 09:01:04 AM

To: ""Agheb (E-mail)" <Agheb@aol.com>, "Leila Mankarious (E-mail)"

<Leila\_Mankarious@mhhs.org>, ""Marymankarious (E-mail)"

<marymankarious@aol.com>, "Michelle lokay (E-mail)" <mlokay@enron.com>, "Ramy

Mankarious (E-mail)" <Mankarious@aol.com>

cc:

Subject: Egyptian Festival

<<Egyptian Festival.url>>

http://www.egyptianfestival.com/

- Egyptian Festival.url

);

INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com', 'sherry.dawson@enron.com', 'Urgent!!! --- New EAST books', 'This has to be done.....')

Thanks

----- Forwarded by Errol McLaughlin/Corp/Enron on 12/20/2000

08:39 AM -----

From: William Kelly @ ECT 12/20/2000 08:31 AM

To: Kam Keiser/HOU/ECT@ECT, Darron C Giron/HOU/ECT@ECT, David Baumbach/HOU/ECT@ECT, Errol McLaughlin/Corp/Enron@ENRON  
cc: Kimat Singla/HOU/ECT@ECT, Kulvinder Fowler/NA/Enron@ENRON, Kyle R Lilly/HOU/ECT@ECT, Jeff Royed/Corp/Enron@ENRON, Alejandra Chavez/NA/Enron@ENRON, Crystal Hyde/HOU/ECT@ECT

Subject: New EAST books

We have new book names in TAGG for our intramonth portfolios and it is extremely important that any deal booked to the East is communicated quickly to someone on my team. I know it will take some time for the new names to sink in and I do not want us to miss any positions or P&L.

Thanks for your help on this.

New:

Scott Neal : East Northeast  
Dick Jenkins: East Marketeast

WK

);

INSERT INTO email([from],[to],subject,body) VALUES('david.forster@enron.com', 'eol.wide@enron.com', 'Change to Stack Manager', 'Effective immediately, there is a change to the Stack Manager which will affect any Inactive Child.

An inactive Child with links to Parent products will not have their calculated prices updated until the Child product is Activated.

When the Child Product is activated, the price will be recalculated and

updated BEFORE it  
is displayed on the web.

This means that if you are inputting a basis price on a Child product, you will not see the final, calculated price until you Activate the product, at which time the customer will also see it.

If you have any questions, please contact the Help Desk on:

Americas: 713 853 4357  
Europe: + 44 (0) 20 7783 7783  
Asia/Australia: +61 2 9229 2300

Dave');

INSERT INTO email([from],[to],subject,body) VALUES('vince.kaminski@enron.com', 'jhh1@email.msn.com', 'Re: Light reading - see pieces beginning on page 7', 'John,

I saw it. Very interesting.

Vince

"John H Herbert" <jhh1@email.msn.com> on 07/28/2000 08:38:08 AM  
To: "Vince J Kaminski" <Vince\_J\_Kaminski@enron.com>  
cc:  
Subject: Light reading - see pieces beginning on page 7

Cheers and have a nice weekend,

JHHerbert

- gd000728.pdf

');

INSERT INTO email([from],[to],subject,body) VALUES('matthew.lenhart@enron.com', 'mmmarcantel@equiva.com', 'RE:', 'i will try to line up a pig for you ');  
INSERT INTO email([from],[to],subject,body)

VALUES('jae.black@enron.com', 'claudette.harvey@enron.com, chaun.roberts@enron.com, judy.martinez@enron.com.', 'Disaster Recovery Equipment', 'As a reminder...there are several pieces of equipment that are set up on the 30th Floor, as well as on our floor, for the Disaster Recovery Team. PLEASE DO NOT TAKE, BORROW OR USE this equipment. Should you need to use another computer system, other than yours, or make conference calls please work with your Assistant to help find or set up equipment for you to use.

Thanks for your understanding in this matter.

T.Jae Black

East Power Trading

Assistant to Kevin Presto

off. 713-853-5800

fax 713-646-8272

cell 713-539-4760');

INSERT INTO email([from],[to],subject,body) VALUES('eric.bass@enron.com', 'dale.neuner@enron.com', '5 X 24', 'Dale,

Have you heard anything more on the 5 X 24s? We would like to get this product out ASAP.

Thanks,

Eric');

INSERT INTO email([from],[to],subject,body) VALUES('messenger@smartreminders.com', 'm..tholt@enron.com', '10% Coupon - PrintPal Printer Cartridges - 100% Guaranteed', '[IMAGE]  
[IMAGE][IMAGE][IMAGE]

Dear SmartReminders Member,

[IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE]



We respect your privacy and are a Certified Participant of the BBBOnLine Privacy Program. To be removed from future offers,click here.

SmartReminders.com is a permission based service. To unsubscribe click here . ');

INSERT INTO email([from],[to],subject,body) VALUES('benjamin.rogers@enron.com', 'mark.bernstein@enron.com', ', 'The guy you are talking about left CIN under a "cloud of suspicion" sort of speak. He was the one who got into several bad deals and PPA's in California for CIN, thus he left on a bad note. Let me know if you need more detail than that, I felt this was the type of info you were looking for. Thanks!

Ben');

INSERT INTO email([from],[to],subject,body)

VALUES('enron\_update@concuworkplace.com', 'michelle.cash@enron.com', 'Expense Report Receipts Not Received', 'Employee Name: Michelle Cash

Report Name: Houston Cellular 8-11-01

Report Date: 12/13/01

Report ID: 594D37C9ED2111D5B452

Submitted On: 12/13/01

You are only allowed 2 reports with receipts outstanding. Your expense reports will not be paid until you meet this requirement.');

INSERT INTO email([from],[to],subject,body) VALUES('susan.mara@enron.com', 'ray.alvarez@enron.com, mark.palmer@enron.com, karen.denne@enron.com', 'CAISO Emergency Motion -- to discontinue market-based rates for', 'FYI. the latest broadside against the generators.

Sue Mara

Enron Corp.

Tel: (415) 782-7802

Fax:(415) 782-7854

----- Forwarded by Susan J Mara/NA/Enron on 06/08/2001 12:24 PM -----

"Milner, Marcie" <MMilner@coral-energy.com> 06/08/2001 11:13 AM To: ""smara@enron.com"" <smara@enron.com> cc: Subject: CAISO Emergency Motion

Sue, did you see this emergency motion the CAISO filed today? Apparently they are requesting that FERC discontinue market-based rates immediately and grant refunds plus interest on the difference between cost-based rates and market revenues received back to May 2000. They are requesting the commission act within 14 days. Have you heard anything about what they are doing?

Marcie

<http://www.caiso.com/docs/2001/06/08/200106081005526469.pdf>

');

INSERT INTO email([from],[to],subject,body) VALUES('fletcher.sturm@enron.com', 'eloy.escobar@enron.com',  
'Re: General Brinks Position Meeting', 'Eloy,

Who is General Brinks?

Fletch');

INSERT INTO email([from],[to],subject,body) VALUES('nailia.dindarova@enron.com',  
'richard.shapiro@enron.com', 'Documents for Mark Frevert (on EU developments and lessons from', 'Rick,

Here are the documents that Peter has prepared for Mark Frevert.

Nailia

----- Forwarded by Nailia Dindarova/LON/ECT on 25/06/2001  
16:36 -----

Nailia Dindarova

25/06/2001 15:36

To:

Michael Brown/Enron@EUEnronXGate

cc: Ross Sankey/Enron@EUEnronXGate, Eric Shaw/ENRON@EUEnronXGate, Peter  
Styles/LON/ECT@ECT

Subject: Documents for Mark Frevert (on EU developments and lessons from  
California)

Michael,

These are the documents that Peter promised to give to you for Mark Frevert.  
He has now handed them to him in person but asked me to transmit them  
electronically to you, as well as Eric and Ross.

Nailia

);

INSERT INTO email([from],[to],subject,body) VALUES('peggy.a.kostial@accenture.com',  
'dave.samuels@enron.com', 'EOL-Accenture Deal Sheet', 'Dave -

Attached are our comments and suggested changes. Please call to review.

On the time line for completion, we have four critical steps to complete:

Finalize market analysis to refine business case, specifically  
projected revenue stream

Complete counterparty surveying, including targeting 3 CPs for letters  
of intent  
Review Enron asset base for potential reuse/ licensing  
Contract  
negotiations

Joe will come back to us with an updated time line, but it is my  
expectation that we are still on the same schedule (we just begun week  
three) with possibly a week or so slippage.....contract negotiations will  
probably be the critical path.

We will send our cut at the actual time line here shortly. Thanks,

Peggy

(See attached file: accenture-dealpoints v2.doc)

- accenture-dealpoints v2.doc ');

INSERT INTO email([from],[to],subject,body) VALUES('thomas.martin@enron.com', 'thomas.martin@enron.com',  
'Re: Guadalupe Power Partners LP', '----- Forwarded by Thomas A Martin/HOU/ECT on 03/20/2001  
03:49 PM -----')

Thomas A Martin

10/11/2000 03:55 PM

To: Patrick Wade/HOU/ECT@ECT

cc:

Subject: Re: Guadalupe Power Partners LP

The deal is physically served at Oasis Waha or Oasis Katy and is priced at  
either HSC, Waha or Katytailgate GD at buyers option three days prior to  
NYMEX close.

');

INSERT INTO email([from],[to],subject,body)

VALUES('judy.townsend@enron.com', 'dan.junek@enron.com, chris.germany@enron.com', 'Columbia  
Distribution's Capacity Available for Release - Sum', '----- Forwarded by Judy Townsend/HOU/ECT  
on 03/09/2001 11:04  
AM -----')

agoddard@nsource.com on 03/08/2001 09:16:57 AM

To: " - \*Koch, Kent" <kkoch@nsource.com>, " -

\*Millar, Debra" <dmillar@nsource.com>, " - \*Burke, Lynn"  
<lburke@nsource.com>

cc: " - \*Heckathorn, Tom" <heckathorn@nsource.com>

Subject: Columbia Distribution's Capacity Available for Release - Sum

Attached is Columbia Distribution's notice of capacity available for release for the summer of 2001 (Apr. 2001 through Oct. 2001).

Please note that the deadline for bids is 3:00pm EST on March 20, 2001.

If you have any questions, feel free to contact any of the representatives listed at the bottom of the attachment.

Aaron Goddard

- 2001Summer.doc

');

INSERT INTO

email([from],[to],subject,body) VALUES('rhonda.denton@enron.com', 'tim.belden@enron.com, dana.davis@enron.com, genia.fitzgerald@enron.com,', 'Split Rock Energy LLC', 'We have received the executed EEI contract from this CP dated 12/12/2000.

Copies will be distributed to Legal and Credit.');

INSERT INTO email([from],[to],subject,body) VALUES('kerrymcelroy@dwt.com', 'jack.speer@alcoa.com, crow@millernash.com, michaelearly@earthlink.net,', 'Oral Argument Request', ' - Oral Argument Request.doc');

INSERT INTO email([from],[to],subject,body) VALUES('mike.carson@enron.com', 'rlmichaelis@hormel.com', ', 'Did you come in town this wk end..... My new number at our house is :

713-668-3712..... my cell # is 281-381-7332

the kid');

INSERT INTO email([from],[to],subject,body) VALUES('cooper.richey@enron.com', 'trycooper@hotmail.com', 'FW: Contact Info', '

-----Original Message-----

From: Punja, Karim

Sent: Thursday, December 13, 2001 2:35 PM

To: Richey, Cooper

Subject: Contact Info

Cooper,

Its

been a real pleasure working with you (even though it was for only a small amount of time)

I hope we can stay in touch.

Home# 234-0249

email: kpunja@hotmail.com

Take Care,

Karim.

');

INSERT INTO email([from],[to],subject,body) VALUES('bjm30@earthlink.net', 'mcguinn.k@enron.com, mcguinn.ian@enron.com, mcguinn.stephen@enron.com,', 'email address change', 'Hello all.

I haven't talked to many of you via email recently but I do want to give you my new address for your email file:

bjm30@earthlink.net

I hope all is well.

Brian McGuinn');

INSERT INTO email([from],[to],subject,body) VALUES('shelley.corman@enron.com', 'steve.hotte@enron.com', 'Flat Panels', 'Can you please advise what is going on with the flat panels that we had planned to distribute to our gas logistics team. It was in the budget and we had the okay, but now I'm hearing there is some hold-up & the units are stored on 44.

Shelley');

INSERT INTO email([from],[to],subject,body) VALUES('sara.davidson@enron.com', 'john.schwartzenburg@enron.com, scott.dieball@enron.com, recipients@enron.com,', '2001 Enron Law Conference (Distribution List 2)', ' Enron Law Conference

San Antonio, Texas May 2-4, 2001 Westin Riverwalk

See attached memo for more details!!

? Registration for the law conference this year will be handled through an Online RSVP Form on the Enron Law Conference Website at <http://lawconference.corp.enron.com>. The website is still under construction and will not be available until Thursday, March 15, 2001.

? We will send you another e-mail to confirm when the Law Conference Website is operational.

? Please complete the Online RSVP Form as soon as it is available and submit it no later than Friday, March 30th.

');

INSERT INTO email([from],[to],subject,body) VALUES('tori.kuykendall@enron.com', 'heath.b.taylor@accenture.com', 'Re:', 'hey - thats funny about john - he definitely remembers him - i'll call pat and let him know - we are coming

on saturday - i just havent had a chance to  
call you guys back -- looking forward to it -- i probably need the  
directions again though');  
INSERT INTO email([from],[to],subject,body) VALUES('darron.giron@enron.com', 'bryce.baxter@enron.com',  
'Re: Feedback for Audrey Cook', 'Bryce,

I'll get it done today.

DG 3-9573

From: Bryce Baxter 06/12/2000 07:15 PM

To: Darron C Giron/HOU/ECT@ECT

cc:

Subject: Feedback for Audrey Cook

You were identified as a reviewer for Audrey Cook. If possible, could you  
complete her feedback by end of business Wednesday? It will really help me  
in the PRC process to have your input. Thanks.

);  
INSERT INTO email([from],[to],subject,body) VALUES('casey.evans@enron.com', 'stephanie.sever@enron.com',  
'Gas EOL ID', 'Stephanie,

In conjunction with the recent movement of several power traders, they are changing the names of their gas books as  
well. The names of the new gas books and traders are as follows:

PWR-NG-LT-SPP:

Mike Carson

PWR-NG-LT-SERC: Jeff King

If you need to know their power desk to map their ID to their gas books, those desks are as follows:

EPMI-LT-SPP: Mike Carson

EPMI-LT-SERC: Jeff King

I will be in training this afternoon, but will be back when class is over. Let me know if you have any questions.

Thanks for your help!

Casey');

INSERT INTO email([from],[to],subject,body) VALUES('darrell.schoolcraft@enron.com',  
'david.roensch@enron.com, kimberly.watson@enron.com, michelle.lokay@enron.com,', 'Postings', 'Please see the  
attached.

ds

');

INSERT INTO email([from],[to],subject,body) VALUES('mcominsky@aol.com', 'cpatman@bracepatt.com, james\_derrick@enron.com', 'Jurisprudence Luncheon', 'Carrin & Jim --

It was an honor and a pleasure to meet both of you yesterday. I know we will have fun working together on this very special event.

Jeff left the jurisprudence luncheon lists for me before he left on vacation.

I wasn't sure whether he transmitted them

to you as well. Would you please

advise me if you would like them sent to you? I can email the MS Excel files or I can fax the hard copies to you. Please advise what is most convenient.

I plan to be in town through the holidays and can be reached by phone, email, or cell phone at any time. My cell phone number is 713/705-4829.

Thanks again for your interest in the ADL's work. Martin.

Martin B. Cominsky

Director, Southwest Region

Anti-Defamation League

713/627-3490, ext. 122

713/627-2011 (fax)

MCominsky@aol.com');

INSERT INTO email([from],[to],subject,body) VALUES('phillip.love@enron.com', 'todagost@utmb.edu, gbsonnta@utmb.edu', 'New President', 'I had a little bird put a word in my ear. Is there any possibility for Ben Raimier to be Bush's secretary of HHS? Just curious about that infamous UTMB rumor mill. Hope things are well, happy holidays.

PL');

INSERT INTO email([from],[to],subject,body) VALUES('marie.heard@enron.com', 'ehamilton@fna.com', 'ISDA Master Agreement',

'Erin:

Pursuant to your request, attached are the Schedule to the ISDA Master Agreement, together with Paragraph 13 to the ISDA Credit Support Annex. Please let me know if you need anything else. We look forward to hearing your comments.

Marie

Marie Heard

Senior Legal Specialist

Enron North America Corp.  
Phone: (713) 853-3907  
Fax: (713) 646-3490  
marie.heard@enron.com

);  
INSERT INTO email([from],[to],subject,body) VALUES('andrea.ring@enron.com', 'beverly.beaty@enron.com',  
'Re: Tennessee Buy - Louis Dreyfus', 'Beverly - once again thanks so much for your help on this.

);  
INSERT INTO email([from],[to],subject,body) VALUES('karolyn.criado@enron.com', 'j..bonin@enron.com,  
felicia.case@enron.com, b..clapp@enron.com,', 'Price List week of Oct. 8-9, 2001', '  
Please contact me if you have any questions regarding last weeks prices.

Thank you,  
Karolyn Criado  
3-9441

);  
INSERT INTO email([from],[to],subject,body)  
VALUES('kevin.presto@enron.com', 'edward.baughman@enron.com, billy.braddock@enron.com', 'Associated',  
'Please begin working on filling our Associated short position in 02. I would like to take this risk off the books.

In addition, please find out what a buy-out of VEPCO would cost us. With Rogers transitioning to run our retail  
risk management, I would like to clean up our customer positions.

We also need to continue to explore a JEA buy-out.

Thanks.');

INSERT INTO email([from],[to],subject,body) VALUES('stacy.dickson@enron.com', 'gregg.penman@enron.com',  
'RE: Constellation TC 5-7-01', 'Gregg,

I am at home with a sick baby. (Lots of fun!) I will call you about this  
tomorrow.

Stacy');

INSERT INTO email([from],[to],subject,body) VALUES('joe.quenet@enron.com', 'dfincher@utilicorp.com', ", 'hey  
big guy.....check this out.....

w ww.gorelieberman-2000.com/");  
INSERT INTO email([from],[to],subject,body) VALUES('k..allen@enron.com', 'jacquestc@aol.com', ",  
'Jacques,



I sent you a fax of Kevin Kolb's comments on the release. The payoff on the note would be \$36,248 (\$36090(principal) + \$158 (accrued interest)).

This is assuming we wrap this up on Tuesday.

Please email to confirm that their changes are ok so I can set up a meeting on Tuesday to reach closure.

Phillip');

INSERT INTO email([from],[to],subject,body) VALUES('kourtney.nelson@enron.com', 'mike.swerzbin@enron.com', 'Adjusted L/R Balance', 'Mike,

I placed the adjusted L/R Balance on the Enronwest site. It is under the "Staff/Kourtney Nelson". There are two links:

- 1) "Adj L\_R" is the same data/format from the weekly strategy meeting.
- 2) "New Gen 2001\_2002" link has all of the supply side info that is used to calculate the L/R balance -Please note the Data Flag column, a value of "3" indicates the project was cancelled, on hold, etc and is not included in the calc.

Both of these sheets are interactive Excel spreadsheets and thus you can play around with the data as you please. Also, James Bruce is working to get his gen report on the web. That will help with your access to information on new gen.

Please let me know if you have any questions or feedback,

Kourtney

Kourtney Nelson

Fundamental Analysis

Enron North America

(503) 464-8280

kourtney.nelson@enron.com');

INSERT INTO email([from],[to],subject,body) VALUES('d..thomas@enron.com', 'naveed.ahmed@enron.com', 'FW: Current Enron TCC Portfolio', '

-----Original Message-----

From: Grace, Rebecca M.

Sent: Monday, December 17, 2001 9:44 AM

To: Thomas, Paul D.

Cc: Cashion, Jim; Allen, Thresa A.; May, Tom

Subject: RE: Current Enron TCC Portfolio

Paul,

I reviewed NY's list. I agree with all of their contracts numbers and mw amounts.

Call if you have any more questions.

Rebecca

-----Original Message-----

From: Thomas, Paul D.  
Sent: Monday, December 17, 2001 9:08 AM  
To: Grace, Rebecca M.  
Subject: FW: Current Enron TCC Portfolio

<< File: enrontccs.xls >>

Rebecca,  
Let me know if you  
see any differences.

Paul

X 3-0403

-----Original Message-----

From: Thomas, Paul D.  
Sent: Monday, December 17, 2001 9:04 AM  
To: Ahmed, Naveed  
Subject: FW: Current Enron TCC Portfolio

-----Original Message-----

From: Thomas, Paul D.  
Sent: Thursday, December 13, 2001 10:01 AM  
To: Baughman, Edward D.  
Subject: Current Enron TCC Portfolio

');

INSERT INTO email([from],[to],subject,body) VALUES('stephanie.panus@enron.com',  
'william.bradford@enron.com, debbie.brackett@enron.com,', 'Coastal Merchant Energy/El Paso Merchant Energy',  
'Coastal Merchant Energy, L.P. merged with and into El Paso Merchant Energy,  
L.P., effective February 1, 2001, with the surviving entity being El Paso  
Merchant Energy, L.P. We currently have ISDA Master Agreements with both  
counterparties. Please see the attached memo regarding the existing Masters  
and let us know which agreement should be terminated.

Thanks,  
Stephanie

');

INSERT INTO email([from],[to],subject,body) VALUES('kam.keiser@enron.com', 'c..kenne@enron.com',

'RE: What about this too???' , '

-----Original Message-----

From: Kenne, Dawn C.  
Sent: Wednesday, February 06, 2002 11:50 AM  
To: Keiser, Kam  
Subject: What about this too???

<< File: Netco Trader Matrix.xls >>

');

INSERT INTO email([from],[to],subject,body) VALUES('chris.meyer@enron.com', 'joe.parks@enron.com', 'Centana', 'Talked to Chip. We do need Cash Committe approval given the netting feature of your deal, which means Batch Funding Request. Please update per my previous e-mail and forward.

Thanks

chris

x31666');

INSERT INTO email([from],[to],subject,body) VALUES('debra.perlingiere@enron.com', 'jworman@academyofhealth.com', ', 'Have a great weekend! Happy Fathers Day!

Debra Perlingiere

Enron North America Corp.  
1400 Smith Street, EB 3885  
Houston, Texas 77002  
dperlin@enron.com  
Phone 713-853-7658  
Fax 713-646-3490');

INSERT INTO email([from],[to],subject,body) VALUES('outlook.team@enron.com', ', 'Demo by Martha Janousek of Dashboard & Pipeline Profile / Julia &', 'CALENDAR ENTRY: APPOINTMENT

Description:

Demo by Martha Janousek of Dashboard & Pipeline Profile / Julia & Dir Rpts. - 4102

Date: 1/5/2001

Time: 9:00 AM - 10:00 AM (Central Standard Time)

Chairperson: Outlook Migration Team

Detailed Description:');

INSERT INTO email([from],[to],subject,body) VALUES('diana.seifert@enron.com', 'mark.taylor@enron.com', 'Guest access Chile', 'Hello Mark,

Justin Boyd told me that your can help me with questions regarding Chile.

We got a request for guest access through MG.

The company is called Escondida and is a subsidiary of BHP Australia.

Please advise if I can set up a guest account or not.

F.Y.I.: MG is planning to put a "in w/h Chile" contract for Copper on-line as soon as Enron has done the due diligence for this country.

Thanks !

Best regards

Diana Seifert

EOL PCG');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concreworkplace.com', 'mark.whitt@enron.com', '<<Concur Expense Document>> - 121001',

'The Approval status has changed on the following report:

Status last changed by: Barry L. Tycholiz

Expense Report Name: 121001

Report Total: \$198.98

Amount Due Employee: \$198.98

Amount Approved: \$198.98

Amount Paid: \$0.00

Approval Status: Approved

Payment Status: Pending

To review this expense report, click on the following link for Concur Expense.

<http://expensecms.enron.com>');

INSERT INTO email([from],[to],subject,body) VALUES('kevin.hyatt@enron.com', '', 'Technical Support', 'Outside the U.S., please refer to the list below:

Australia:

1800 678-515

[support@palm-au.com](mailto:support@palm-au.com)

Canada:

1905 305-6530

[support@palm.com](mailto:support@palm.com)

New Zealand:

0800 446-398

[support@palm-nz.com](mailto:support@palm-nz.com)

U.K.:

0171 867 0108

[eurosupport@palm.3com.com](mailto:eurosupport@palm.3com.com)

Please refer to the Worldwide Customer Support card for a complete technical support contact list.');

INSERT INTO email([from],[to],subject,body) VALUES('geoff.storey@enron.com', 'dutch.quigley@enron.com', 'RE:', 'duke contact?')

-----Original Message-----

From: Quigley, Dutch

Sent: Wednesday, October 31, 2001 10:14 AM

To: Storey, Geoff

Subject: RE:

bp corp Albert LaMore 281-366-4962

running the reports now

-----Original Message-----

From: Storey, Geoff

Sent: Wednesday, October 31, 2001 10:10 AM

To: Quigley, Dutch

Subject: RE:

give me a contact over there too

BP

-----Original Message-----

From: Quigley, Dutch

Sent: Wednesday, October 31, 2001 9:42 AM

To: Storey, Geoff

Subject:

Coral Jeff Whitnah 713-767-5374

Relaint Steve McGinn 713-207-4000');

INSERT INTO email([from],[to],subject,body) VALUES('pete.davis@enron.com', 'pete.davis@enron.com', 'Start Date: 4/22/01; HourAhead hour: 3; <CODESITE>', 'Start Date: 4/22/01; HourAhead hour: 3; No ancillary schedules awarded.

Variances detected.

Variances detected in Load schedule.

LOG MESSAGES:

PARSING FILE -->> O:\Portland\WestDesk\California Scheduling\ISO Final Schedules\2001042203.txt

---- Load Schedule ----

\$\$\$ Variance found in table tblLoads.

Details: (Hour: 3 / Preferred:

1.92 / Final: 1.89)  
TRANS\_TYPE: FINAL  
LOAD\_ID: PGE4  
MKT\_TYPE: 2  
TRANS\_DATE: 4/22/01  
SC\_ID: EPMI

```
);  
INSERT INTO email([from],[to],subject,body) VALUES('john.postlethwaite@enron.com',  
'john.zufferli@enron.com', 'Reference', 'John, hope things are going well up there for you. The big day is almost  
here for you and Jessica. I was wondering if I could use your name as a job reference if need be. I am just trying to  
get everything in order just in case something happens.
```

```
John');  
INSERT INTO email([from],[to],subject,body) VALUES('jeffrey.shankman@enron.com',  
'lschiffm@jonesday.com', 'Re:', 'I saw you called on the cell this a.m. Sorry I missed you. (I was in the  
shower). I have had a shitty week--I suspect my silence (not only to you,  
but others) after our phone call is a result of the week. I'm seeing Glen at  
11:15....talk to you');  
INSERT INTO email([from],[to],subject,body) VALUES('litebytz@enron.com', ', 'Lite Bytz RSVP', '  
This week's Lite Bytz presentation  
will feature the following TOOLZ speaker:
```

Richard McDougall  
Solaris 8  
Thursday, June 7, 2001

If you have not already signed up, please RSVP via email to [litebytz@enron.com](mailto:litebytz@enron.com) by the end of the day Tuesday, June 5, 2001.

\*Remember: this is now a Brown Bag Event--so bring your lunch and we will provide cookies and drinks.

Click below for more details.

<http://home.enron.com:84/messaging/litebytztoolzprint.jpg>');

```
COMMIT;  
}  
} {}
```

```
#####  
# Everything above just builds an interesting test database. The actual  
# tests come after this comment.  
#####
```

```
do_test fts1c-1.2 {  
  execsql {  
    SELECT rowid FROM email WHERE email MATCH 'mark'  
  }  
}
```

```

} {6 17 25 38 40 42 73 74}
do_test fts1c-1.3 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH 'susan'
  }
} {24 40}
do_test fts1c-1.4 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH 'mark
susan'
  }
} {40}
do_test fts1c-1.5 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH 'susan mark'
  }
} {40}
do_test fts1c-1.6 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH "'mark susan'"
  }
} {}
do_test fts1c-1.7 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH 'mark -susan'
  }
} {6 17 25 38 42 73 74}
do_test fts1c-1.8 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH '-mark susan'
  }
} {24}
do_test fts1c-1.9 {
  execsql {
    SELECT rowid FROM email WHERE email MATCH 'mark OR susan'
  }
} {6 17 24 25 38 40 42 73 74}

# Some simple tests of the automatic "offsets(email)" column. In the sample
# data set above, only one message, number 20, contains the words
# "gas" and "reminder" in both body and subject.
#
do_test fts1c-2.1 {
  execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE email MATCH 'gas reminder'
  }
} {20 {2 0 42 3 2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}

```

```

do_test fts1c-2.2 {
  execsql {

    SELECT rowid, offsets(email) FROM email
      WHERE email MATCH 'subject:gas reminder'
  }
} {20 {2 0 42 3 2 1 54 8 3 1 54 8}}
do_test fts1c-2.3 {
  execsql {
    SELECT rowid, offsets(email) FROM email
      WHERE email MATCH 'body:gas reminder'
  }
} {20 {2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}
do_test fts1c-2.4 {
  execsql {
    SELECT rowid, offsets(email) FROM email
      WHERE subject MATCH 'gas reminder'
  }
} {20 {2 0 42 3 2 1 54 8}}
do_test fts1c-2.5 {
  execsql {
    SELECT rowid, offsets(email) FROM email
      WHERE body MATCH 'gas reminder'
  }
} {20 {3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}

# Document 32 contains 5 instances of the world "child". But only
# 3 of them are paired with "product". Make sure only those instances
# that match the phrase appear in the offsets(email) list.
#
do_test fts1c-3.1 {
  execsql {
    SELECT rowid, offsets(email) FROM email
      WHERE body MATCH 'child product' AND +rowid=32
  }
} {32 {3 0 94 5 3 0 114 5 3 0 207
5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7 3 1 493 7}}
do_test fts1c-3.2 {
  execsql {
    SELECT rowid, offsets(email) FROM email
      WHERE body MATCH "'child product'"
  }
} {32 {3 0 207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7}}

# Snippet generator tests
#
do_test fts1c-4.1 {
  execsql {

```



```

SELECT snippet(email) FROM email
WHERE email MATCH 'subject:gas reminder'
}
} {{Alert Posted 10:00 AM November 20,2000: E-<b>GAS</b> Request <b>Reminder</b>}}
do_test fts1c-4.2 {
execsql {
SELECT snippet(email) FROM email
WHERE email MATCH 'christmas candlelight'
}
} {{<b>...</b> place.? What do you think about going here <b>Christmas</b>
eve?? They have an 11:00 a.m. service and a <b>candlelight</b> service at 5:00 p.m.,
among others. <b>...</b>}}

do_test fts1c-4.3 {
execsql {
SELECT snippet(email) FROM email
WHERE email MATCH 'deal sheet potential reuse'
}
} {{EOL-Accenture <b>Deal</b> <b>Sheet</b> <b>...</b> intent
Review Enron
asset base for <b>potential</b> <b>reuse</b>/ licensing
Contract negotiations <b>...</b>}}
do_test fts1c-4.4 {
execsql {
SELECT snippet(email,'<<<','>>>',') FROM email
WHERE email MATCH 'deal sheet potential reuse'
}
} {{EOL-Accenture <<<Deal>>> <<<Sheet>>> intent
Review Enron asset base for <<<potential>>> <<<reuse>>>/ licensing
Contract negotiations }}
do_test fts1c-4.5 {
execsql {
SELECT snippet(email,'<<<','>>>',') FROM email
WHERE email MATCH 'first things'
}
} {{Re: <<<First>>> Polish Deal! Congrats! <<<Things>>> seem to be building rapidly now on the }}
do_test fts1c-4.6 {
execsql {
SELECT snippet(email) FROM email
WHERE email MATCH 'chris is here'
}
} {{<b>chris</b>.germany@enron.com <b>...</b> Sounds good to me. I bet this <b>is</b> next to the Warick??
Hotel. <b>...</b> place.? What do you think about going <b>here</b> Christmas
eve?? They have an 11:00 a.m. <b>...</b>}}
do_test fts1c-4.7 {
execsql {
SELECT

```

```
snippet(email) FROM email
WHERE email MATCH "'pursuant to'"
}
} {{Erin:
```

<b>Pursuant</b> <b>to</b> your request, attached are the Schedule to <b>...</b>}}

```
do_test fts1c-4.8 {
```

```
execsql {
```

```
SELECT snippet(email) FROM email
```

```
WHERE email MATCH 'ancillary load davis'
```

```
}
```

```
} {{pete.<b>davis</b>@enron.com <b>...</b> Start Date: 4/22/01; HourAhead hour: 3; No <b>ancillary</b> schedules awarded.
```

Variances detected.

Variances detected in <b>Load</b> schedule.

LOG MESSAGES:

```
PARSING <b>...</b>}}
```

# Combinations of AND and OR operators:

```
#
```

```
do_test fts1c-5.1 {
```

```
execsql {
```

```
SELECT snippet(email) FROM email
```

```
WHERE email MATCH 'questar enron OR com'
```

```
}
```

```
} {{matt.smith@<b>enron</b>.<b>com</b> <b>...</b> six reports:
```

31 Keystone Receipts

15 <b>Questar</b> Pipeline

40 Rockies Production

22 West\_2 <b>...</b>}}

```
do_test fts1c-5.2 {
```

```
execsql {
```

```
SELECT snippet(email) FROM email
```

```
WHERE email MATCH 'enron OR com questar'
```

```
}
```

```
} {{matt.smith@<b>enron</b>.<b>com</b> <b>...</b>
```

six reports:

31 Keystone Receipts

15 <b>Questar</b> Pipeline

40 Rockies Production

22 West\_2 <b>...</b>}}

```
finish_test
```

Found in path(s):

\* /opt/cola/permits/1710121454\_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/test/fts1c.test

No license file was found, but licenses were detected in source scan.

%define name sqlite

%define version SQLITE\_VERSION

%define release 1

Name: % { name }

Summary: SQLite is a C library that implements an embeddable SQL database engine

Version: % { version }

Release: % { release }

Source: % { name }-% { version }.tar.gz

Group: System/Libraries

URL: <http://www.sqlite.org/>

License: Public Domain

BuildRoot: % { \_tmppath }/% { name }-% { version }-root

%description

SQLite is a software library that implements a self-contained, serverless, zero-configuration, transactional SQL database engine.

Programs that link with the SQLite library can have SQL database access without running a separate RDBMS process. The distribution comes with a standalone command-line access program (sqlite) that can be used to administer an SQLite database and which serves as an example of how to use the SQLite library.

%package -n % { name }-devel

Summary: Header files and libraries for developing apps which will use sqlite

Group: Development/C

Requires:

% { name } = % { version }-% { release }

%description -n % { name }-devel

The sqlite-devel package contains the header files and libraries needed to develop programs that use the SQLite database library.

%prep

%setup -q -n % { name }

%build

CFLAGS="%optflags -DNDEBUG=1" CXXFLAGS="%optflags -DNDEBUG=1" ./configure --prefix=% { \_prefix }

make

make doc

%install

```
install -d $RPM_BUILD_ROOT/%{_prefix}
install -d $RPM_BUILD_ROOT/%{_prefix}/bin
install -d $RPM_BUILD_ROOT/%{_prefix}/include
install -d $RPM_BUILD_ROOT/%{_prefix}/lib
make install prefix=$RPM_BUILD_ROOT/%{_prefix}
```

```
%post -p /sbin/ldconfig
```

```
%postun -p /sbin/ldconfig
```

```
%clean
```

```
rm -fr $RPM_BUILD_ROOT
```

```
%files
```

```
%defattr(-, root, root)
```

```
%{_libdir}/*.so*
```

```
%{_bindir}/*
```

```
%files -n %{name}-devel
```

```
%defattr(-, root, root)
```

```
%{_libdir}/pkgconfig/sqlite3.pc
```

```
%{_libdir}/*.a
```

```
%{_libdir}/*.la
```

```
%{_includedir}/*
```

```
%doc doc/*
```

```
Found in path(s):
```

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/spec.template
```

```
No license file was found, but licenses were detected in source scan.
```

```
# 2006 September 14
```

```
#
```

```
# The author disclaims copyright to this source code. In place of
```

```
# a legal notice, here is a blessing:
```

```
#
```

```
# May you do good and not evil.
```

```
# May you find forgiveness for yourself and forgive others.
```

```
# May you share freely, never taking more than you give.
```

```
#
```

```
*****
```

```
# This file implements regression tests for SQLite library. The
```

```
# focus of this script is testing the FTS3 module.
```

```
#
```

```
# $Id: fts3ac.test,v 1.1 2007/08/20 17:38:42 shess Exp $
```

```
#
```

```
set testdir [file dirname $argv0]
```

```
source $testdir/tester.tcl
```

```
# If SQLITE_ENABLE_FTS3 is defined, omit this file.
```

```
ifcapable !fts3 {  
  finish_test  
  return  
}
```

```
# Create a table of sample email data. The data comes from email
```

```
# archives of Enron executives that was published as part of the
```

```
# litigation against that company.
```

```
#
```

```
do_test fts3ac-1.1 {
```

```
  db eval {
```

```
    CREATE VIRTUAL TABLE email
```

```
    USING fts3([from],[to],subject,body);
```

```
    BEGIN TRANSACTION;
```

```
    INSERT INTO email([from],[to],subject,body) VALUES('savita.puthigai@enron.com', 'traders.eol@enron.com,  
traders.eol@enron.com', 'EnronOnline- Change to Autohedge', 'Effective Monday, October 22, 2001 the following  
changes will be made to the Autohedge functionality on EnronOnline.
```

The volume on the hedge will now respect the minimum volume and volume increment settings on the parent product. See rules below:

? If the transaction volume on the child is less than half of the parent's minimum volume no hedge will occur.

? If the transaction volume on the child is more than half the parent's minimum volume but less than half the volume increment on the parent, the hedge will volume will be the parent's minimum volume.

? For all other volumes, the same rounding rules will apply based on the volume increment on the parent product.

Please see example below:

Parent's Settings:

Minimum: 5000

Increment: 1000

Volume on Autohedge

transaction	Volume Hedged
-------------	---------------

1 - 2499	0
----------	---

2500 - 5499	5000
-------------	------

5500 - 6499	6000
-------------	------

```
INSERT INTO email([from],[to],subject,body) VALUES('dana.davis@enron.com', 'laynie.east@enron.com,  
lisa.king@enron.com, lisa.best@enron.com,', 'Leaving Early', 'FYI:
```

```
If it's ok with everyone's needs, I would like to leave @4pm. If you think  
you will need my assistance past the 4 o'clock hour just let me know; I'll  
be more than willing to stay.);
```

```
INSERT INTO email([from],[to],subject,body) VALUES('enron_update@concuere workplace.com',
```

```
'louise.kitchen@enron.com', '<<Concur Expense Document>> - CC02.06.02', 'The following expense report is ready  
for approval:
```

Employee Name: Christopher F. Calger  
Status last changed by: Mollie E. Gustafson Ms  
Expense Report Name: CC02.06.02  
Report Total: \$3,972.93  
Amount Due Employee: \$3,972.93

To approve this expense report, click on the following link for Concur Expense.

<http://expensecms.enron.com>);

INSERT INTO email([from],[to],subject,body)

VALUES('jeff.duff@enron.com', 'julie.johnson@enron.com', 'Work request', 'Julie,

Could you print off the current work request report by 1:30 today?

Gentlemen,

I'd like to review this today at 1:30 in our office. Also, could you provide me with your activity reports so I can have Julie enter this information.

JD');

INSERT INTO email([from],[to],subject,body) VALUES('v.weldon@enron.com', 'gary.l.carrier@usa.dupont.com, scott.joyce@bankofamerica.com', 'Enron News', 'This could turn into something big....

<http://biz.yahoo.com/rf/010129/n29305829.html>);

INSERT INTO email([from],[to],subject,body) VALUES('mark.haedicke@enron.com', 'paul.simons@enron.com', 'Re: First Polish Deal!', 'Congrats! Things seem to be building rapidly now on the Continent. Mark');

INSERT INTO email([from],[to],subject,body) VALUES('e..carter@enron.com', 't..robinson@enron.com', 'FW: Producers Newsletter 9-24-2001', '

The producer lumber pricing sheet.

-----Original Message-----

From: Johnson, Jay

Sent: Tuesday, October 16, 2001 3:42 PM

To: Carter, Karen E.

Subject: FW: Producers Newsletter 9-24-2001

-----Original Message-----

From: Daigre, Sergai

Sent: Friday, September 21, 2001 8:33 PM

Subject: Producers Newsletter 9-24-2001

');

INSERT INTO email([from],[to],subject,body) VALUES('david.delainey@enron.com', 'kenneth.lay@enron.com', 'Greater Houston Partnership', 'Ken, in response to the letter from Mr Miguel San Juan, my suggestion would

be to offer up the Falcon for their use; however, given the tight time frame

and your recent visit with Mr. Fox that it would be difficult for either you

or me to participate.

I spoke to Max and he agrees with this approach.

I hope this meets with your approval.

Regards

Delainey');

INSERT INTO email([from],[to],subject,body) VALUES('lachandra.fenceroy@enron.com', 'lindy.donoho@enron.com', 'FW: Bus Applications Meeting Follow Up', 'Lindy,

Here is the original memo we discussed earlier. Please provide any information that you may have.

Your cooperation is greatly appreciated.

Thanks,

lachandra.fenceroy@enron.com

713.853.3884

877.498.3401 Pager

-----Original Message-----

From: Bisbee, Joanne

Sent: Wednesday, September 26, 2001 7:50 AM

To: Fenceroy, LaChandra

Subject: FW: Bus Applications Meeting Follow Up

Lachandra, Please get with David Duff today and see what this is about. Who are our TW accounting business users?

-----Original Message-----

From: Koh, Wendy

Sent: Tuesday, September 25, 2001 2:41 PM

To: Bisbee, Joanne

Subject: Bus Applications Meeting Follow Up

Lisa brought up a TW change effective Nov 1. It involves eliminating a turnback surcharge. I have no other information, but you might check with the business folks for any system changes required.

Wendy');

INSERT INTO email([from],[to],subject,body) VALUES('danny.mccarty@enron.com', 'fran.fagan@enron.com', 'RE: worksheets', 'Fran,

If Julie's merit needs to be lump sum, just move it over to that column. Also, send me Eric Gadd's sheets as well. Thanks.

Dan

-----Original Message-----

From: Fagan, Fran  
Sent: Thursday, December 20, 2001 11:10 AM  
To: McCarty, Danny  
Subject: worksheets

As discussed, attached are your sheets for bonus and merit.

Thanks,

Fran Fagan  
Sr. HR Rep  
713.853.5219

<< File: McCartyMerit.xls >> << File: mccartyBonusCommercial\_UnP.xls >>

);  
INSERT INTO email([from],[to],subject,body) VALUES('bert.meyers@enron.com', 'shift.dl-portland@enron.com',  
'OCTOBER SCHEDULE', 'TEAM,

PLEASE SEND ME ANY REQUESTS THAT YOU HAVE FOR OCTOBER. SO FAR I HAVE THEM FOR  
LEAF. I WOULD LIKE TO HAVE IT DONE BY THE 15TH OF THE MONTH. ANY QUESTIONS PLEASE  
GIVE ME A CALL.

BERT');  
INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com', 'john.arnold@enron.com,  
bilal.bajwa@enron.com, john.griffith@enron.com,', 'TRV Notification: (NG - PROPT P/L - 09/27/2001)', 'The  
report named: NG - PROPT P/L <[http://trv.corp.enron.com/linkFromExcel.asp?report\\_cd=11&report\\_name=NG+-+PROPT+P/L&category\\_cd=5&category\\_name=FINANCIAL&toc\\_hide=1&sTV1=5&TV1Exp=Y&current\\_efct\\_date=09/27/2001](http://trv.corp.enron.com/linkFromExcel.asp?report_cd=11&report_name=NG+-+PROPT+P/L&category_cd=5&category_name=FINANCIAL&toc_hide=1&sTV1=5&TV1Exp=Y&current_efct_date=09/27/2001)>,  
published as of 09/27/2001 is now available for viewing on the website.');

INSERT INTO email([from],[to],subject,body) VALUES('patrice.mims@enron.com', 'calvin.eakins@enron.com',  
'Re: Small business supply assistance', 'Hi Calvin

I spoke with Rickey (boy, is he long-winded!!). Gave him the name of our  
credit guy, Russell Diamond.

Thank for your help!);  
INSERT INTO email([from],[to],subject,body) VALUES('legal <.hall@enron.com>', 'stephanie.panus@enron.com',  
'Termination update', 'City of Vernon and Salt River Project terminated their contracts. I will fax these notices to  
you.');

INSERT INTO email([from],[to],subject,body) VALUES('d..steffes@enron.com', 'richard.shapiro@enron.com',  
'EES / ENA Government Affairs Staffing & Outside Services', 'Rick --

Here is the information on staffing and outside services. Call if you need anything else.

Jim



);  
INSERT INTO email([from],[to],subject,body)  
VALUES('gelliott@industrialinfo.com', 'pcopello@industrialinfo.com', 'ECAAR (Gavin), WSCC (Diablo Canyon),  
& NPCC (Seabrook)', 'Dear Power Outage Database Customer,  
Attached you will find an excel document. The outages contained within are forced or rescheduled outages. Your  
daily delivery will still contain these outages.  
In addition to the two excel documents, there is a dbf file that is formatted like your daily deliveries you receive  
nightly. This will enable you to load the data into your regular database. Any questions please let me know. Thanks.  
Greg Elliott  
IIR, Inc.  
713-783-5147 x 3481  
outages@industrialinfo.com

THE INFORMATION CONTAINED IN THIS E-MAIL IS LEGALLY PRIVILEGED AND CONFIDENTIAL  
INFORMATION INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY NAMED ABOVE.  
YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISTRIBUTION, OR COPY OF THIS E-  
MAIL TO UNAUTHORIZED ENTITIES IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS  
E-MAIL IN ERROR, PLEASE DELETE

IT.

- OUTAGE.dbf
- 111201R.xls
- 111201.xls ');

INSERT INTO email([from],[to],subject,body) VALUES('enron.announcements@enron.com',  
'all\_ena\_egm\_eim@enron.com', 'EWS Brown Bag', 'MARK YOUR LUNCH CALENDARS NOW !

You are invited to attend the EWS Brown Bag Lunch Series

Featuring: RAY BOWEN, COO

Topic: Enron Industrial Markets

Thursday, March 15, 2001

11:30 am - 12:30 pm

EB 5 C2

You bring your lunch, Limited Seating

We provide drinks and dessert. RSVP x 3-9610');

INSERT INTO email([from],[to],subject,body) VALUES('chris.germany@enron.com',  
'ingrid.immer@williams.com', 'Re: About St Pauls', 'Sounds good to me. I bet this is next to the Warick?? Hotel.

"Immer, Ingrid" <Ingrid.Immer@Williams.com> on 12/21/2000 11:48:47 AM

To: ""chris.germany@enron.com"" <chris.germany@enron.com>

cc:

Subject: About St Pauls

<<About St Pauls.url>>

?

?http://www.stpaulshouston.org/about.html

Chris,

I like the looks of this place.? What do you think about going here Christmas eve?? They have an 11:00 a.m. service and a candlelight service at 5:00 p.m., among others.

Let me know.?? ii

- About St Pauls.url

);

INSERT INTO email([from],[to],subject,body) VALUES('nas@cpuc.ca.gov', 'skatz@sempratrad.com, kmccrea@sabl.com, thompson@wrightlaw.com,', 'Reply Brief filed July 31, 2000', '- CPUC01-#76371-v1-Revised\_Reply\_Brief\_\_Due\_today\_7\_31\_.doc');

INSERT INTO email([from],[to],subject,body) VALUES('gascontrol@aglresources.com', 'dscott4@enron.com, lcampbel@enron.com', 'Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder', 'Alert Posted 10:00 AM November 20,2000: E-GAS Request Reminder

As discussed in the Winter Operations Meeting on Sept.29,2000, E-Gas(Emergency Gas) will not be offered this winter as a service from AGLC. Marketers and Poolers can receive gas via Peaking and IBSS nominations(daisy chain) from other marketers up to the 6 p.m. Same Day 2 nomination cycle.

);

INSERT INTO email([from],[to],subject,body) VALUES('dutch.quigley@enron.com', 'rwolkwitz@powermerchants.com', ", ' "

Here is a goody for you');

INSERT INTO email([from],[to],subject,body) VALUES('ryan.o"rourke@enron.com', 'k..allen@enron.com, randy.bhatia@enron.com, frank.ermis@enron.com,', 'TRV Notification: (West VaR - 11/07/2001)', 'The report named: West VaR

<http://trv.corp.enron.com/linkFromExcel.asp?report\_cd=36&report\_name=West+VaR&category\_cd=2&category\_name=WEST&toc\_hide=1&sTV1=2&TV1Exp=Y&current\_efct\_date=11/07/2001>, published as of 11/07/2001 is now available for viewing on the website.);

INSERT INTO email([from],[to],subject,body) VALUES('mjones7@txu.com', 'cstone1@txu.com, ggreen2@txu.com, timpowell@txu.com,', 'Enron / HPL Actuals for July 10, 2000', 'Teco Tap 10.000 / Enron ; 110.000 / HPL IFERC

LS HPL LSK IC 30.000 / Enron

);

INSERT INTO email([from],[to],subject,body) VALUES('susan.pereira@enron.com', 'kkw816@aol.com', 'soccer

practice', 'Kathy-

Is it safe to assume that practice is cancelled  
for tonight??

Susan Pereira');

INSERT INTO email([from],[to],subject,body) VALUES('mark.whitt@enron.com', 'barry.tycholiz@enron.com',  
'Huber Internal Memo', 'Please look at this. I didn't know how deep to go with the desk. Do you think this works.

');

INSERT INTO email([from],[to],subject,body) VALUES('m..forney@enron.com', 'george.phillips@enron.com', '',  
'George,

Give me a call and we will further discuss opportunities on the 13st floor.

Thanks,

JMForney

3-7160');

INSERT INTO email([from],[to],subject,body) VALUES('brad.mckay@enron.com', 'angusmcka@aol.com', 'Re: (no  
subject)', 'not yet');

INSERT INTO email([from],[to],subject,body) VALUES('adam.bayer@enron.com', 'jonathan.mckay@enron.com',  
'FW: Curve Fetch File', 'Here is the curve fetch file sent to me. It has plenty of points in it. If you give me a list of  
which ones you need we may be able to construct a secondary worksheet to vlookup the values.

adam

35227

-----Original Message-----

From: Royed, Jeff

Sent: Tuesday,

September 25, 2001 11:37 AM

To: Bayer, Adam

Subject: Curve Fetch File

Let me know if it works. It may be required to have a certain version of Oracle for it to work properly.

Jeff Royed

Enron

Energy Operations

Phone: 713-853-5295');

INSERT INTO email([from],[to],subject,body) VALUES('matt.smith@enron.com', 'yan.wang@enron.com', 'Report  
Formats', 'Yan,

The merged reports look great. I believe the only orientation changes are to  
"unmerge" the following six reports:

31 Keystone Receipts  
15 Questar Pipeline  
40 Rockies Production  
22 West\_2  
23 West\_3  
25 CIG\_WIC

The orientation of the individual reports should be correct. Thanks.

Mat

PS. Just a reminder to add the "\*" by the title of calculated points.);  
INSERT INTO email([from],[to],subject,body) VALUES('michelle.lokay@enron.com', 'jimboman@bigfoot.com',  
'Egyptian Festival', '----- Forwarded by Michelle Lokay/ET&S/Enron on 09/07/2000  
10:08 AM -----

"Karkour, Randa" <Randa.Karkour@COMPAQ.com>  
on 09/07/2000 09:01:04 AM  
To: ""Agheb (E-mail)" <Agheb@aol.com>, "Leila Mankarious (E-mail)"  
<Leila\_Mankarious@mhhs.org>, ""Marymankarious (E-mail)"  
<marymankarious@aol.com>, "Michelle lokay (E-mail)" <mlokay@enron.com>, "Ramy  
Mankarious (E-mail)" <Mankarious@aol.com>  
cc:

Subject: Egyptian Festival

<<Egyptian Festival.url>>

<http://www.egyptianfestival.com/>

- Egyptian Festival.url  
INSERT INTO email([from],[to],subject,body) VALUES('errol.mclaughlin@enron.com',  
'sherry.dawson@enron.com', 'Urgent!!! --- New EAST books', 'This has to be done.....

Thanks  
----- Forwarded by Errol McLaughlin/Corp/Enron on 12/20/2000  
08:39 AM -----

From: William Kelly @ ECT 12/20/2000 08:31 AM

To: Kam Keiser/HOU/ECT@ECT, Darron C Giron/HOU/ECT@ECT, David  
Baumbach/HOU/ECT@ECT, Errol McLaughlin/Corp/Enron@ENRON

cc: Kimat Singla/HOU/ECT@ECT, Kulvinder Fowler/NA/Enron@ENRON,  
Kyle R  
Lilly/HOU/ECT@ECT, Jeff Royed/Corp/Enron@ENRON, Alejandra  
Chavez/NA/Enron@ENRON, Crystal Hyde/HOU/ECT@ECT

Subject: New EAST books

We have new book names in TAGG for our intramonth portfolios and it is extremely important that any deal booked to the East is communicated quickly to someone on my team. I know it will take some time for the new names to sink in and I do not want us to miss any positions or P&L.

Thanks for your help on this.

New:

Scott Neal : East Northeast  
Dick Jenkins: East Marketeast

WK

);

INSERT INTO email([from],[to],subject,body) VALUES('david.forster@enron.com', 'eol.wide@enron.com', 'Change to Stack Manager', 'Effective immediately, there is a change to the Stack Manager which will affect any Inactive Child.

An inactive Child with links to Parent products will not have their calculated prices updated until the Child product is Activated.

When the Child Product is activated, the price will be recalculated and updated BEFORE it is displayed on the web.

This means that if you are inputting a basis price on a Child product, you will not see the final, calculated price until you Activate the product, at which time the customer will also see it.

If you have any questions, please contact the Help Desk on:

Americas: 713 853 4357  
Europe: + 44 (0) 20 7783 7783  
Asia/Australia: +61 2 9229 2300

Dave');

INSERT INTO email([from],[to],subject,body) VALUES('vince.kaminski@enron.com', 'jhh1@email.msn.com', 'Re: Light reading - see pieces beginning on page 7', 'John,

I saw it. Very interesting.

Vince

"John H Herbert" <jhh1@email.msn.com> on 07/28/2000 08:38:08 AM

To: "Vince J Kaminski" <Vince\_J\_Kaminski@enron.com>

cc:

Subject: Light reading - see pieces beginning on page 7

Cheers and have a nice weekend,

JHHerbert

- gd000728.pdf

');

INSERT INTO email([from],[to],subject,body) VALUES('matthew.lenhart@enron.com',  
'mmmarcanel@equiva.com', 'RE:', 'i will try to line up a pig for you');

INSERT INTO

email([from],[to],subject,body) VALUES('jae.black@enron.com', 'claudette.harvey@enron.com,  
chaun.roberts@enron.com, judy.martinez@enron.com,', 'Disaster Recovery Equipment', 'As a reminder...there are  
several pieces of equipment that are set up on the 30th Floor, as well as on our floor, for the Disaster Recovery  
Team. PLEASE DO NOT TAKE, BORROW OR USE this equipment. Should you need to use another computer  
system, other than yours, or make conference calls please work with your Assistant to help find or set up equipment  
for you to use.

Thanks for your understanding in this matter.

T.Jae Black

East Power Trading

Assistant to Kevin Presto

off. 713-853-5800

fax 713-646-8272

cell 713-539-4760');

INSERT INTO email([from],[to],subject,body) VALUES('eric.bass@enron.com', 'dale.neuner@enron.com', '5 X  
24', 'Dale,

Have you heard anything more on the 5 X 24s? We would like to get this  
product out ASAP.

Thanks,

Eric');

INSERT INTO email([from],[to],subject,body) VALUES('messenger@smartreminders.com',  
'm..tholt@enron.com', '10% Coupon - PrintPal Printer Cartridges - 100% Guaranteed', '[IMAGE]  
[IMAGE][IMAGE][IMAGE]

Dear SmartReminders Member,

[IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE] [IMAGE]

We respect your privacy and are a Certified Participant of the BBBOnLine  
Privacy Program. To be removed from future offers,click here.

SmartReminders.com is a permission based service. To unsubscribe click here . ');

INSERT INTO email([from],[to],subject,body) VALUES('benjamin.rogers@enron.com',  
'mark.bernstein@enron.com', ", 'The guy you are talking about left CIN under a "cloud of suspicion" sort of  
speak. He was the one who got into several bad deals and PPA's in California  
for CIN, thus he left on a bad note. Let me know if you need more detail  
than that, I felt this was the type of info you were looking for. Thanks!

Ben');

INSERT INTO email([from],[to],subject,body)

VALUES('enron\_update@concreworkplace.com', 'michelle.cash@enron.com', 'Expense Report Receipts Not  
Received', 'Employee Name: Michelle Cash

Report Name: Houston Cellular 8-11-01

Report Date: 12/13/01

Report ID: 594D37C9ED2111D5B452

Submitted On: 12/13/01

You are only allowed 2 reports with receipts outstanding. Your expense reports will not be paid until you meet this

requirement.');

INSERT INTO email([from],[to],subject,body) VALUES('susan.mara@enron.com', 'ray.alvarez@enron.com, mark.palmer@enron.com, karen.denne@enron.com,', 'CAISO Emergency Motion -- to discontinue market-based rates for', 'FYI. the latest broadside against the generators.

Sue Mara

Enron Corp.

Tel: (415) 782-7802

Fax:(415) 782-7854

----- Forwarded by Susan J Mara/NA/Enron on 06/08/2001 12:24 PM -----

"Milner, Marcie" <MMilner@coral-energy.com> 06/08/2001 11:13 AM To: ""smara@enron.com"" <smara@enron.com> cc: Subject: CAISO Emergency Motion

Sue, did you see this emergency motion the CAISO filed today? Apparently they are requesting that FERC discontinue market-based rates immediately and grant refunds plus interest on the difference between cost-based rates and market revenues received back to May 2000. They are requesting the commission act within 14 days. Have you heard anything about what they are doing?

Marcie

<http://www.caiso.com/docs/2001/06/08/200106081005526469.pdf>

');

INSERT INTO email([from],[to],subject,body) VALUES('fletcher.sturm@enron.com', 'eloy.escobar@enron.com', 'Re: General Brinks Position Meeting', 'Eloy,

Who is General Brinks?

Fletch');

INSERT INTO email([from],[to],subject,body) VALUES('nailia.dindarova@enron.com', 'richard.shapiro@enron.com', 'Documents for Mark Frevert (on EU developments and lessons from', 'Rick,

Here are the documents that Peter has prepared for Mark Frevert.

Nailia

----- Forwarded by Nailia Dindarova/LON/ECT on 25/06/2001

16:36 -----

Nailia Dindarova

25/06/2001

15:36

To: Michael Brown/Enron@EUEnronXGate



cc: Ross Sankey/Enron@EUEnronXGate, Eric Shaw/ENRON@EUEnronXGate, Peter Styles/LON/ECT@ECT

Subject: Documents for Mark Frevert (on EU developments and lessons from California)

Michael,

These are the documents that Peter promised to give to you for Mark Frevert. He has now handed them to him in person but asked me to transmit them electronically to you, as well as Eric and Ross.

Nailia

);  
INSERT INTO email([from],[to],subject,body) VALUES('peggy.a.kostial@accenture.com', 'dave.samuels@enron.com', 'EOL-Accenture Deal Sheet', 'Dave -

Attached are our comments and suggested changes. Please call to review.

On the time line for completion, we have four critical steps to complete:

- Finalize market analysis to refine business case, specifically projected revenue stream
- Complete counterparty surveying, including targeting 3 CPs for letters of intent
- Review Enron asset base for potential reuse/ licensing
- Contract negotiations

Joe will come back to us with an updated time line, but it is my expectation that we are still on the same schedule (we just begun week three) with possibly a week or so slippage.....contract negotiations will probably be the critical path.

We will send our cut at the actual time line here shortly. Thanks,

Peggy

(See attached file: accenture-dealpoints v2.doc)

- accenture-dealpoints v2.doc ');

INSERT INTO email([from],[to],subject,body) VALUES('thomas.martin@enron.com', 'thomas.martin@enron.com', 'Re: Guadalupe Power Partners LP', '----- Forwarded by Thomas A Martin/HOU/ECT on 03/20/2001 03:49 PM -----

Thomas A Martin  
10/11/2000 03:55 PM  
To: Patrick Wade/HOU/ECT@ECT  
cc:  
Subject: Re: Guadalupe Power Partners LP

The deal is physically served at Oasis Waha or Oasis Katy and is priced at either HSC, Waha or Katytailgate GD at buyers option three days prior to NYMEX close.

);  
INSERT INTO email([from],[to],subject,body)  
VALUES('judy.townsend@enron.com', 'dan.junek@enron.com, chris.germany@enron.com', 'Columbia  
Distribution"s Capacity Available for Release - Sum', '----- Forwarded by Judy Townsend/HOU/ECT  
on 03/09/2001 11:04  
AM -----

agoddard@nsource.com on 03/08/2001 09:16:57 AM  
To: " - \*Koch, Kent" <kkoch@nsource.com>, " -  
\*Millar, Debra" <dmillar@nsource.com>, " - \*Burke, Lynn"  
<lburke@nsource.com>  
cc: " - \*Heckathorn, Tom" <heckathorn@nsource.com>  
Subject: Columbia Distribution"s Capacity Available for Release - Sum

Attached is Columbia Distribution"s notice of capacity available for release  
for  
the summer of 2001 (Apr. 2001 through Oct. 2001).

Please note that the deadline for bids is 3:00pm EST on March 20, 2001.

If you have any questions, feel free to contact any of the representatives  
listed  
at the bottom of the attachment.

Aaron Goddard

- 2001Summer.doc

);  
INSERT INTO  
email([from],[to],subject,body) VALUES('rhonda.denton@enron.com', 'tim.belden@enron.com,  
dana.davis@enron.com, genia.fitzgerald@enron.com,', 'Split Rock Energy LLC', 'We have received the executed

EEl contract from this CP dated 12/12/2000.

Copies will be distributed to Legal and Credit.');

INSERT INTO email([from],[to],subject,body) VALUES('kerrymcelroy@dwt.com', 'jack.speer@alcoa.com, crow@millernash.com, michaelearly@earthlink.net,', 'Oral Argument Request', ' - Oral Argument Request.doc');  
INSERT INTO email([from],[to],subject,body) VALUES('mike.carson@enron.com', 'rlmichaelis@hormel.com', ", 'Did you come in town this wk end..... My new number at our house is :  
713-668-3712..... my cell # is 281-381-7332

the kid');

INSERT INTO email([from],[to],subject,body) VALUES('cooper.richey@enron.com', 'trycooper@hotmail.com', 'FW: Contact Info', '

-----Original Message-----

From: Punja, Karim  
Sent: Thursday, December 13, 2001 2:35 PM  
To: Richey, Cooper  
Subject: Contact Info

Cooper,

Its

been a real pleasure working with you (even though it was for only a small amount of time)  
I hope we can stay in touch.

Home# 234-0249  
email: kpunja@hotmail.com

Take Care,

Karim.

');

INSERT INTO email([from],[to],subject,body) VALUES('bjm30@earthlink.net', 'mcguinn.k@enron.com, mcguinn.ian@enron.com, mcguinn.stephen@enron.com,', 'email address change', 'Hello all.

I haven't talked to many of you via email recently but I do want to give you  
my new address for your email file:

bjm30@earthlink.net

I hope all is well.

Brian McGuinn');

INSERT INTO email([from],[to],subject,body) VALUES('shelley.corman@enron.com', 'steve.hotte@enron.com', 'Flat Panels', 'Can you please advise what is going on with the flat panels that we had planned to distribute to our gas logistics team. It was in the budget and we had the okay, but now I'm hearing there is some hold-up & the units are stored on 44.

Shelley');

INSERT INTO email([from],[to],subject,body) VALUES('sara.davidson@enron.com',  
'john.schwartzenburg@enron.com, scott.dieball@enron.com, recipients@enron.com,', '2001 Enron Law Conference  
(Distribution List 2)', ' Enron Law Conference

San Antonio, Texas May 2-4, 2001 Westin Riverwalk

See attached memo for more details!!

? Registration for the law conference this year will be handled through an  
Online RSVP Form on the Enron Law Conference Website at  
<http://lawconference.corp.enron.com>. The website is still under construction  
and will not be available until Thursday, March 15, 2001.

? We will send you another e-mail to confirm when the Law Conference Website  
is operational.

? Please complete the Online RSVP Form as soon as it is available and submit  
it no later than Friday, March 30th.

');

INSERT INTO email([from],[to],subject,body) VALUES('tori.kuykendall@enron.com',  
'heath.b.taylor@accenture.com', 'Re:', 'hey - thats funny about john - he definitely remembers him - i'll call pat  
and let him know - we are  
coming on saturday - i just havent had a chance to  
call you guys back -- looking forward to it -- i probably need the  
directions again though');

INSERT INTO email([from],[to],subject,body) VALUES('darron.giron@enron.com', 'bryce.baxter@enron.com',  
'Re: Feedback for Audrey Cook', 'Bryce,

I'll get it done today.

DG 3-9573

From: Bryce Baxter

06/12/2000 07:15 PM

To: Darron C Giron/HOU/ECT@ECT

cc:

Subject: Feedback for Audrey Cook

You were identified as a reviewer for Audrey Cook. If possible, could you complete her feedback by end of business Wednesday? It will really help me in the PRC process to have your input. Thanks.

);

```
INSERT INTO email([from],[to],subject,body) VALUES('casey.evans@enron.com', 'stephanie.sever@enron.com', 'Gas EOL ID', 'Stephanie,
```

In conjunction with the recent movement of several power traders, they are changing the names of their gas books as well. The names of the new gas books and traders are as follows:

PWR-NG-LT-SPP:

Mike Carson

PWR-NG-LT-SERC: Jeff King

If you need to know their power desk to map their ID to their gas books, those desks are as follows:

EPMI-LT-SPP: Mike Carson

EPMI-LT-SERC: Jeff King

I will be in training this afternoon, but will be back when class is over. Let me know if you have any questions.

Thanks for your help!

Casey');

```
INSERT INTO email([from],[to],subject,body) VALUES('darrell.schoolcraft@enron.com', 'david.roensch@enron.com, kimberly.watson@enron.com, michelle.lokay@enron.com,', 'Postings', 'Please see the attached.
```

ds

);

```
INSERT INTO email([from],[to],subject,body) VALUES('mcominsky@aol.com', 'cpatman@bracepatt.com, james_derrick@enron.com', 'Jurisprudence Luncheon', 'Carrin & Jim --
```

It was an honor and a pleasure to meet both of you yesterday. I know we will have fun working together on this very special event.

Jeff left the jurisprudence luncheon lists for me before he left on vacation.

I wasn't sure whether he transmitted

them to you as well. Would you please

advise me if you would like them sent to you? I can email the MS Excel files or I can fax the hard copies to you. Please advise what is most convenient.

I plan to be in town through the holidays and can be reached by phone, email, or cell phone at any time. My cell phone number is 713/705-4829.

Thanks again for your interest in the ADL's work. Martin.

Martin B. Cominsky

Director, Southwest Region

Anti-Defamation League

713/627-3490, ext. 122

713/627-2011 (fax)

MCominsky@aol.com');

INSERT INTO email([from],[to],subject,body) VALUES('phillip.love@enron.com', 'todagost@utmb.edu, gbsonnta@utmb.edu', 'New President', 'I had a little bird put a word in my ear. Is there any possibility for Ben Raimer to be Bush's secretary of HHS? Just curious about that infamous UTMB rumor mill. Hope things are well, happy holidays.

PL');

INSERT INTO email([from],[to],subject,body) VALUES('marie.heard@enron.com', 'ehamilton@fna.com', 'ISDA Master Agreement',

'Erin:

Pursuant to your request, attached are the Schedule to the ISDA Master Agreement, together with Paragraph 13 to the ISDA Credit Support Annex. Please let me know if you need anything else. We look forward to hearing your comments.

Marie

Marie Heard

Senior Legal Specialist

Enron North America Corp.

Phone: (713) 853-3907

Fax: (713) 646-3490

marie.heard@enron.com

');

INSERT INTO email([from],[to],subject,body) VALUES('andrea.ring@enron.com', 'beverly.beaty@enron.com', 'Re: Tennessee Buy - Louis Dreyfus', 'Beverly - once again thanks so much for your help on this.

');

INSERT INTO email([from],[to],subject,body) VALUES('karolyn.criado@enron.com', 'j..bonin@enron.com, felicia.case@enron.com, b..clapp@enron.com,', 'Price List week of Oct. 8-9, 2001', '

Please contact me if you have any questions regarding last weeks prices.

Thank you,

Karolyn Criado

3-9441

);

INSERT INTO email([from],[to],subject,body)

VALUES('kevin.presto@enron.com', 'edward.baughman@enron.com, billy.braddock@enron.com', 'Associated',  
'Please begin working on filling our Associated short position in 02. I would like to take this risk off the books.

In addition, please find out what a buy-out of VEPCO would cost us. With Rogers transitioning to run our retail risk management, I would like to clean up our customer positions.

We also need to continue to explore a JEA buy-out.

Thanks.');

INSERT INTO email([from],[to],subject,body) VALUES('stacy.dickson@enron.com', 'gregg.penman@enron.com',  
'RE: Constellation TC 5-7-01', 'Gregg,

I am at home with a sick baby. (Lots of fun!) I will call you about this tomorrow.

Stacy');

INSERT INTO email([from],[to],subject,body) VALUES('joe.quenet@enron.com', 'dfincher@utilicorp.com', ", 'hey  
big guy.....check this out.....

w ww.gorelieberman-2000.com/");

INSERT INTO email([from],[to],subject,body) VALUES('k..allen@enron.com', 'jacqestc@aol.com', ",  
'Jacques,

I sent you a fax of Kevin Kolb's comments on the release. The payoff on the note would be \$36,248 (\$36090(principal) + \$158 (accrued interest)).

This is assuming we wrap this up on Tuesday.

Please email to confirm that their changes are ok so I can set up a meeting on Tuesday to reach closure.

Phillip');

INSERT INTO email([from],[to],subject,body) VALUES('kourtney.nelson@enron.com',  
'mike.swerzbin@enron.com', 'Adjusted L/R Balance', 'Mike,

I placed the adjusted L/R Balance on the Enronwest site. It is under the "Staff/Kourtney Nelson". There are two links:

- 1) "Adj L\_R" is the same data/format from the weekly strategy meeting.
- 2) "New Gen 2001\_2002" link has all of the supply side info that is used to calculate the L/R balance  
-Please note the Data Flag column, a value of "3" indicates the project was cancelled, on hold, etc and is not included in the calc.

Both of these sheets are interactive Excel spreadsheets and thus you can play around with the data

as you please. Also, James Bruce is working to get his gen report on the web. That will help with your access to information on new gen.

Please let me know if you have any questions or feedback,

Kourtney

Kourtney Nelson

Fundamental Analysis

Enron North America

(503) 464-8280

kourtney.nelson@enron.com');

INSERT INTO email([from],[to],subject,body) VALUES('d..thomas@enron.com', 'naveed.ahmed@enron.com', 'FW: Current Enron TCC Portfolio', '

-----Original Message-----

From: Grace, Rebecca M.

Sent: Monday, December 17, 2001 9:44 AM

To: Thomas, Paul D.

Cc: Cashion, Jim; Allen, Thresa A.; May, Tom

Subject: RE: Current Enron TCC Portfolio

Paul,

I reviewed NY's list. I agree with all of their contracts numbers and mw amounts.

Call if you have any more questions.

Rebecca

-----Original Message-----

From: Thomas, Paul D.

Sent: Monday, December 17, 2001 9:08 AM

To: Grace, Rebecca M.

Subject: FW: Current Enron TCC Portfolio

<< File: enrontccs.xls >>

Rebecca,

Let me know if

you see any differences.

Paul

X 3-0403



-----Original Message-----

From: Thomas, Paul D.  
Sent: Monday, December 17, 2001 9:04 AM  
To: Ahmed, Naveed  
Subject: FW: Current Enron TCC Portfolio

-----Original Message-----

From: Thomas, Paul D.  
Sent: Thursday, December 13, 2001 10:01 AM  
To: Baughman, Edward D.  
Subject: Current Enron TCC Portfolio

);  
INSERT INTO email([from],[to],subject,body) VALUES('stephanie.panus@enron.com',  
'william.bradford@enron.com, debbie.brackett@enron.com,', 'Coastal Merchant Energy/El Paso Merchant Energy',  
'Coastal Merchant Energy, L.P. merged with and into El Paso Merchant Energy,  
L.P., effective February 1, 2001, with the surviving entity being El Paso  
Merchant Energy, L.P. We currently have ISDA Master Agreements with both  
counterparties. Please see the attached memo regarding the existing Masters  
and let us know which agreement should be terminated.

Thanks,  
Stephanie

);  
INSERT INTO email([from],[to],subject,body) VALUES('kam.keiser@enron.com',  
'c..kenne@enron.com', 'RE: What about this too???' , '

-----Original Message-----

From: Kenne, Dawn C.  
Sent: Wednesday, February 06, 2002 11:50 AM  
To: Keiser, Kam  
Subject: What about this too???

<< File: Netco Trader Matrix.xls >>

);  
INSERT INTO email([from],[to],subject,body) VALUES('chris.meyer@enron.com', 'joe.parks@enron.com',  
'Centana', 'Talked to Chip. We do need Cash Committe approval given the netting feature of your deal, which  
means Batch Funding Request. Please update per my previous e-mail and forward.

Thanks

chris  
x31666');

INSERT INTO email([from],[to],subject,body) VALUES('debra.perlingiere@enron.com',  
'jworman@academyofhealth.com', '', 'Have a great weekend! Happy Fathers Day!')

Debra Perlingiere

Enron North America Corp.

1400 Smith Street, EB 3885

Houston, Texas 77002

dperlin@enron.com

Phone 713-853-7658

Fax 713-646-3490);

INSERT INTO email([from],[to],subject,body) VALUES('outlook.team@enron.com', '', 'Demo by Martha Janousek  
of Dashboard & Pipeline

Profile / Julia &', 'CALENDAR ENTRY: APPOINTMENT

Description:

Demo by Martha Janousek of Dashboard & Pipeline Profile / Julia & Dir Rpts. - 4102

Date: 1/5/2001

Time: 9:00 AM - 10:00 AM (Central Standard Time)

Chairperson: Outlook Migration Team

Detailed Description:');

INSERT INTO email([from],[to],subject,body) VALUES('diana.seifert@enron.com', 'mark.taylor@enron.com',  
'Guest access Chile', 'Hello Mark,

Justin Boyd told me that you can help me with questions regarding Chile.

We got a request for guest access through MG.

The company is called Escondida and is a subsidiary of BHP Australia.

Please advise if I can set up a guest account or not.

F.Y.I.: MG is planning to put a "in w/h Chile" contract for Copper on-line as  
soon as Enron has done the due diligence for this country.

Thanks !

Best regards

Diana Seifert

EOL PCG');

INSERT INTO email([from],[to],subject,body) VALUES('enron\_update@concuworkplace.com',  
'mark.whitt@enron.com', '<<Concur Expense Document>> - 121001',

'The Approval status has changed on the following report:

Status last changed by: Barry L. Tycholiz

Expense Report Name: 121001

Report Total: \$198.98

Amount Due Employee: \$198.98

Amount Approved: \$198.98

Amount Paid: \$0.00

Approval Status: Approved

Payment Status: Pending

To review this expense report, click on the following link for Concur Expense.

<http://expensexms.enron.com>);

INSERT INTO email([from],[to],subject,body) VALUES('kevin.hyatt@enron.com', '', 'Technical Support', 'Outside the U.S., please refer to the list below:

Australia:

1800 678-515

support@palm-au.com

Canada:

1905 305-6530

support@palm.com

New Zealand:

0800 446-398

support@palm-nz.com

U.K.:

0171 867 0108

eurosupport@palm.3com.com

Please refer to the Worldwide Customer Support card for a complete technical support contact list.');

INSERT INTO email([from],[to],subject,body) VALUES('geoff.storey@enron.com', 'dutch.quigley@enron.com', 'RE:', 'duke contact?'

-----Original Message-----

From: Quigley, Dutch

Sent: Wednesday, October 31, 2001 10:14 AM

To: Storey, Geoff

Subject: RE:

bp corp Albert LaMore 281-366-4962

running the reports now

-----Original Message-----

From: Storey, Geoff

Sent: Wednesday, October 31, 2001 10:10 AM

To: Quigley, Dutch

Subject: RE:

give me a contact over there too  
BP

-----Original Message-----

From: Quigley, Dutch  
Sent: Wednesday, October 31, 2001 9:42 AM  
To: Storey, Geoff  
Subject:

Coral Jeff Whitnah 713-767-5374  
Relaint Steve McGinn 713-207-4000');  
INSERT INTO email([from],[to],subject,body) VALUES('pete.davis@enron.com', 'pete.davis@enron.com', 'Start  
Date: 4/22/01; HourAhead hour: 3; <CODESITE>', 'Start Date: 4/22/01; HourAhead hour: 3; No ancillary  
schedules awarded.  
Variances detected.  
Variances detected in Load schedule.

LOG MESSAGES:

PARSING FILE -->> O:\Portland\WestDesk\California Scheduling\ISO Final  
Schedules\2001042203.txt

---- Load Schedule ----

\$\$\$ Variance found in table tblLoads.

Details: (Hour: 3 / Preferred:  
1.92 / Final: 1.89)

TRANS\_TYPE: FINAL

LOAD\_ID: PGE4

MKT\_TYPE: 2

TRANS\_DATE: 4/22/01

SC\_ID: EPMI

);

INSERT INTO email([from],[to],subject,body) VALUES('john.postlethwaite@enron.com',  
'john.zufferli@enron.com', 'Reference', 'John, hope things are going well up there for you. The big day is almost  
here for you and Jessica. I was wondering if I could use your name as a job reference if need be. I am just trying to  
get everything in order just in case something happens.

John');

INSERT INTO email([from],[to],subject,body) VALUES('jeffrey.shankman@enron.com',  
'Ischiffm@jonesday.com', 'Re:', 'I saw you called on the cell this a.m. Sorry I missed you. (I was in the  
shower). I have had a shitty week--I suspect my silence (not only to you,  
but others) after our phone call is a result of the week. I'm seeing Glen at  
11:15....talk to you');

INSERT INTO email([from],[to],subject,body) VALUES('litebytz@enron.com', ', 'Lite Bytz RSVP', '

This week's Lite Bytz presentation  
will feature the following TOOLZ speaker:

Richard McDougall  
Solaris 8  
Thursday, June 7, 2001

If you have not already signed up, please RSVP via email to [litebytz@enron.com](mailto:litebytz@enron.com) by the end of the day Tuesday, June 5, 2001.

\*Remember: this is now a Brown Bag Event--so bring your lunch and we will provide cookies and drinks.

Click below for more details.

```
http://home.enron.com:84/messaging/litebytztoolzprint.jpg');  
  COMMIT;  
}  
} {}
```

```
#####  
# Everything above just builds an interesting test database. The actual  
# tests come after this comment.  
#####
```

```
do_test fts3ac-1.2 {  
  execsql {  
    SELECT rowid FROM email WHERE email MATCH 'mark'  
  }  
} {6 17 25 38 40 42 73 74}  
do_test fts3ac-1.3 {  
  execsql {  
    SELECT rowid FROM email WHERE email MATCH 'susan'  
  }  
} {24 40}  
do_test fts3ac-1.4 {  
  execsql {  
    SELECT rowid FROM email WHERE email MATCH  
'mark susan'  
  }  
} {40}  
do_test fts3ac-1.5 {  
  execsql {  
    SELECT rowid FROM email WHERE email MATCH 'susan mark'  
  }  
} {40}  
do_test fts3ac-1.6 {  
  execsql {  
    SELECT rowid FROM email WHERE email MATCH "'mark susan'"
```

```

}
} {}
do_test fts3ac-1.7 {
execsql {
    SELECT rowid FROM email WHERE email MATCH 'mark -susan'
}
} {6 17 25 38 42 73 74}
do_test fts3ac-1.8 {
execsql {
    SELECT rowid FROM email WHERE email MATCH '-mark susan'
}
} {24}
do_test fts3ac-1.9 {
execsql {
    SELECT rowid FROM email WHERE email MATCH 'mark OR susan'
}
} {6 17 24 25 38 40 42 73 74}

# Some simple tests of the automatic "offsets(email)" column. In the sample
# data set above, only one message, number 20, contains the words
# "gas" and "reminder" in both body and subject.
#
do_test fts3ac-2.1 {
execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE email MATCH 'gas reminder'
}
} {20 {2 0 42 3 2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}
do_test fts3ac-2.2 {

execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE email MATCH 'subject:gas reminder'
}
} {20 {2 0 42 3 2 1 54 8 3 1 54 8}}
do_test fts3ac-2.3 {
execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE email MATCH 'body:gas reminder'
}
} {20 {2 1 54 8 3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}
do_test fts3ac-2.4 {
execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE subject MATCH 'gas reminder'
}
} {20 {2 0 42 3 2 1 54 8}}
do_test fts3ac-2.5 {

```

```

execsql {
  SELECT rowid, offsets(email) FROM email
  WHERE body MATCH 'gas reminder'
}
} {20 {3 0 42 3 3 1 54 8 3 0 129 3 3 0 143 3 3 0 240 3}}

# Document 32 contains 5 instances of the word "child". But only
# 3 of them are paired with "product". Make sure only those instances
# that match the phrase appear in the offsets(email) list.
#
do_test fts3ac-3.1 {
  execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE body MATCH 'child product' AND +rowid=32
  }
} {32 {3 0 94
5 3 0 114 5 3 0 207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7 3 1 493 7}}
do_test fts3ac-3.2 {
  execsql {
    SELECT rowid, offsets(email) FROM email
    WHERE body MATCH "'child product'"
  }
} {32 {3 0 207 5 3 1 213 7 3 0 245 5 3 1 251 7 3 0 409 5 3 1 415 7}}

# Snippet generator tests
#
do_test fts3ac-4.1 {
  execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH 'subject:gas reminder'
  }
} {{Alert Posted 10:00 AM November 20,2000: E-<b>GAS</b> Request <b>Reminder</b>}}
do_test fts3ac-4.2 {
  execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH 'christmas candlelight'
  }
} {{<b>...</b> place.? What do you think about going here <b>Christmas</b>
eve?? They have an 11:00 a.m. service and a <b>candlelight</b> service at 5:00 p.m.,
among others. <b>...</b>}}

do_test fts3ac-4.3 {
  execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH 'deal sheet potential reuse'
  }
} {{EOL-Accenture <b>Deal</b> <b>Sheet</b> <b>...</b> intent

```

```

    Review Enron asset base for <b>potential</b> <b>reuse</b>/ licensing
    Contract negotiations <b>...</b>}}
do_test fts3ac-4.4 {
execsql {
    SELECT snippet(email,'<<<','>>>',') FROM email
    WHERE email MATCH 'deal sheet potential reuse'
}
} {{EOL-Accenture <<<Deal>>> <<<Sheet>>> intent
    Review Enron asset base for <<<potential>>> <<<reuse>>>/ licensing
    Contract negotiations }}
do_test fts3ac-4.5 {
execsql {
    SELECT snippet(email,'<<<','>>>',') FROM email
    WHERE email MATCH 'first things'
}
} {{Re: <<<First>>> Polish Deal! Congrats! <<<Things>>> seem to be building rapidly now on the }}
do_test fts3ac-4.6 {
execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH 'chris is here'
}
} {{<b>chris</b>.germany@enron.com <b>...</b> Sounds good to me. I bet this <b>is</b> next to the Warick??
Hotel. <b>...</b> place.? What do you think about going <b>here</b> Christmas
eve?? They have an 11:00 a.m. <b>...</b>}}
do_test fts3ac-4.7
{
execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH "'pursuant to'"
}
} {{Erin:

<b>Pursuant</b> <b>to</b> your request, attached are the Schedule to <b>...</b>}}
do_test fts3ac-4.8 {
execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH 'ancillary load davis'
}
} {{pete.<b>davis</b>@enron.com <b>...</b> Start Date: 4/22/01; HourAhead hour: 3; No <b>ancillary</b>
schedules awarded.
Variances detected.
Variances detected in <b>Load</b> schedule.

LOG MESSAGES:

PARSING <b>...</b>}}

# Combinations of AND and OR operators:

```



```
#
do_test fts3ac-5.1 {
  execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH 'questar enron OR com'
  }
} {{matt.smith@<b>enron</b>.<b>com</b> <b>...</b> six reports:
```

```
31 Keystone Receipts
15 <b>Questar</b> Pipeline
40 Rockies Production
22 West_2 <b>...</b>}}
```

```
do_test fts3ac-5.2 {
  execsql {
    SELECT snippet(email) FROM email
    WHERE email MATCH 'enron OR com questar'
  }
} {{matt.smith@<b>enron</b>.<b>com</b>
<b>...</b> six reports:
```

```
31 Keystone Receipts
15 <b>Questar</b> Pipeline
40 Rockies Production
22 West_2 <b>...</b>}}
```

finish\_test

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/test/fts3ac.test
No license file was found, but licenses were detected in source scan.
```

<a href="copyright.html">public domain</a> and is thus free for

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/about.html
No license file was found, but licenses were detected in source scan.
```

Suppose the demo\_data.boundary field holds some proprietary data description

Found in path(s):

```
* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/rtree.html
No license file was found, but licenses were detected in source scan.
```

/\*

```
** CAPI3REF: Configuration Options {H10160} <S20000>
```

\*\* EXPERIMENTAL

\*\*

\*\* These constants are the available integer configuration options that  
\*\* can be passed as the first argument to the [sqlite3\_config()] interface.

\*\*

\*\* New configuration options may be added in future releases of SQLite.

\*\* Existing configuration options might be discontinued. Applications  
\*\* should check the return code from [sqlite3\_config()] to make sure that  
\*\* the call worked. The [sqlite3\_config()] interface will return a  
\*\* non-zero [error code] if a discontinued or unsupported configuration option  
\*\* is invoked.

\*\*

\*\* <dl>

\*\* <dt>SQLITE\_CONFIG\_SINGLETHREAD</dt>

\*\* <dd>There are no arguments to this option. This option disables  
\*\* all mutexing and puts SQLite into a mode where it can only be used  
\*\* by a single thread.</dd>

\*\*

\*\* <dt>SQLITE\_CONFIG\_MULTITHREAD</dt>

\*\* <dd>There are no arguments to this option. This option disables

\*\*

mutexing on [database connection] and [prepared statement] objects.

\*\* The application is responsible for serializing access to  
\*\* [database connections] and [prepared statements]. But other mutexes  
\*\* are enabled so that SQLite will be safe to use in a multi-threaded  
\*\* environment as long as no two threads attempt to use the same  
\*\* [database connection] at the same time. See the [threading mode]  
\*\* documentation for additional information.</dd>

\*\*

\*\* <dt>SQLITE\_CONFIG\_SERIALIZED</dt>

\*\* <dd>There are no arguments to this option. This option enables  
\*\* all mutexes including the recursive  
\*\* mutexes on [database connection] and [prepared statement] objects.  
\*\* In this mode (which is the default when SQLite is compiled with  
\*\* [SQLITE\_THREADSAFE=1]) the SQLite library will itself serialize access  
\*\* to [database connections] and [prepared statements] so that the  
\*\* application is free to use the same [database connection] or the  
\*\* same [prepared statement] in different threads at  
the same time.

\*\* See the [threading mode] documentation for additional information.</dd>

\*\*

\*\* <dt>SQLITE\_CONFIG\_MALLOC</dt>

\*\* <dd>This option takes a single argument which is a pointer to an  
\*\* instance of the [sqlite3\_mem\_methods] structure. The argument specifies  
\*\* alternative low-level memory allocation routines to be used in place of  
\*\* the memory allocation routines built into SQLite.</dd>

\*\*

\*\* <dt>SQLITE\_CONFIG\_GETMALLOC</dt>

**\*\* <dd>**This option takes a single argument which is a pointer to an instance of the [sqlite3\_mem\_methods] structure. The [sqlite3\_mem\_methods] structure is filled with the currently defined memory allocation routines. This option can be used to overload the default memory allocation routines with a wrapper that simulations memory allocation failure or tracks memory usage, for example.</dd>

**\*\***

**\*\* <dt>SQLITE\_CONFIG\_MEMSTATUS</dt>**

**\*\* <dd>**This option takes single argument of type int, interpreted as a boolean, which enables or disables the collection of memory allocation statistics. When disabled, the following SQLite interfaces become non-operational:

**\*\* <ul>**

**\*\* <li>** [sqlite3\_memory\_used()]

**\*\* <li>** [sqlite3\_memory\_highwater()]

**\*\* <li>** [sqlite3\_soft\_heap\_limit()]

**\*\* <li>** [sqlite3\_status()]

**\*\* </ul>**

**\*\* </dd>**

**\*\***

**\*\* <dt>SQLITE\_CONFIG\_SCRATCH</dt>**

**\*\* <dd>**This option specifies a static memory buffer that SQLite can use for scratch memory. There are three arguments: A pointer an 8-byte aligned memory buffer from which the scratch allocations will be drawn, the size of each scratch allocation (sz), and the maximum number of scratch allocations (N). The sz argument must be a multiple of 16. The sz parameter should be a few bytes larger than the actual scratch space required due to internal overhead. The first argument should pointer to an 8-byte aligned buffer of at least sz\*N bytes of memory. SQLite will use no more than one scratch buffer at once per thread, so N should

be set to the expected maximum number of threads. The sz parameter should be 6 times the size of the largest database page size. Scratch buffers are used as part of the btree balance operation. If The btree balancer needs additional memory beyond what is provided by scratch buffers or if no scratch buffer space is specified, then SQLite goes to [sqlite3\_malloc()] to obtain the memory it needs.</dd>

**\*\***

**\*\* <dt>SQLITE\_CONFIG\_PAGECACHE</dt>**

**\*\* <dd>**This option specifies a static memory buffer that SQLite can use for the database page cache with the default page cache implementation. This configuration should not be used if an application-define page cache implementation is loaded using the SQLITE\_CONFIG\_PCACHE option.

**\*\* There are three arguments to this option: A pointer to 8-byte aligned memory, the size of each page buffer (sz), and the number of pages (N).**

**\*\* The sz argument should be the size of the largest database page**

\*\* (a power of two between 512 and 32768) plus a little extra for each page header. The page header size is 20 to 40 bytes depending on the host architecture. It is harmless, apart from the wasted memory, to make sz a little too large. The first argument should point to an allocation of at least sz\*N bytes of memory. SQLite will use the memory provided by the first argument to satisfy its memory needs for the first N pages that it adds to cache. If additional page cache memory is needed beyond what is provided by this option, then SQLite goes to [sqlite3\_malloc()] for the additional storage space. The implementation might use one or more of the N buffers to hold memory accounting information. The pointer in the first argument must be aligned to an 8-byte boundary or subsequent behavior of SQLite will be undefined.</dd>

\*\* <dt>SQLITE\_CONFIG\_HEAP</dt>

\*\* <dd>This option specifies a static memory buffer that SQLite will use for all of its dynamic memory allocation needs beyond those provided for by [SQLITE\_CONFIG\_SCRATCH] and [SQLITE\_CONFIG\_PAGECACHE]. There are three arguments: An 8-byte aligned pointer to the memory, the number of bytes in the memory buffer, and the minimum allocation size. If the first pointer (the memory pointer) is NULL, then SQLite reverts to using its default memory allocator (the system malloc() implementation), undoing any prior invocation of [SQLITE\_CONFIG\_MALLOC]. If the memory pointer is not NULL and either [SQLITE\_ENABLE\_MEMSYS3] or [SQLITE\_ENABLE\_MEMSYS5] are defined, then the alternative memory allocator is engaged to handle all of SQLites memory allocation needs. The first pointer (the memory pointer) must be aligned to an 8-byte boundary or subsequent behavior of SQLite will be undefined.</dd>

\*\* <dt>SQLITE\_CONFIG\_MUTEX</dt>

\*\* <dd>This option takes a single argument which is a pointer to an instance of the [sqlite3\_mutex\_methods] structure. The argument specifies alternative low-level mutex routines to be used in place of the mutex routines built into SQLite.</dd>

\*\* <dt>SQLITE\_CONFIG\_GETMUTEX</dt>

\*\* <dd>This option takes a single argument which is a pointer to an instance of the [sqlite3\_mutex\_methods] structure. The [sqlite3\_mutex\_methods] structure is filled with the currently defined mutex routines. This option can be used to overload the default mutex allocation routines with a wrapper used to track mutex usage for performance profiling or testing, for example.</dd>

\*\* <dt>SQLITE\_CONFIG\_LOOKASIDE</dt>

```

** <dd>This option takes two arguments that determine the default
** memory allocation lookaside optimization. The first argument is the
** size of each lookaside buffer slot and the second is the number of
** slots allocated to each database connection. This option sets the
** <i>default</i> lookaside size. The [SQLITE_DBCONFIG_LOOKASIDE]
** verb to [sqlite3_db_config()] can be used to change the lookaside
** configuration on individual
connections.</dd>
**
** <dt>SQLITE_CONFIG_PCACHE</dt>
** <dd>This option takes a single argument which is a pointer to
** an [sqlite3_pcache_methods] object. This object specifies the interface
** to a custom page cache implementation. SQLite makes a copy of the
** object and uses it for page cache memory allocations.</dd>
**
** <dt>SQLITE_CONFIG_GETPCACHE</dt>
** <dd>This option takes a single argument which is a pointer to an
** [sqlite3_pcache_methods] object. SQLite copies of the current
** page cache implementation into that object.</dd>
**
** </dl>
*/

```

Found in path(s):

```

* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/src/sqlite.h.in
No license file was found, but licenses were detected in source scan.

```

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Rather than using fopen() to write XML or some proprietary format into

Found in path(s):

```

* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/features.html
No license file was found, but licenses were detected in source scan.

```

SQLite is in the public domain. This document describes what that means

Found in path(s):

```

* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite_docs_3_6_20.zip-cosi-expand-archive-MNhBWwk2/sqlite-3_6_20-docs/docs.html
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```

/\*

\* This code implements the MD5 message-digest algorithm.

\* The algorithm is due to Ron Rivest. This code was

\* written by Colin Plumb in 1993, no copyright is claimed.

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```

*
* Equivalent code is available from RSA Data Security, Inc.
* This code has been tested against that, and is equivalent,
* except that you don't need to include two pages of legalese
* with every copy.
*
* To compute the message digest of a chunk of bytes, declare an
* MD5Context structure, pass it to MD5Init, call MD5Update as
* needed on buffers full of bytes, and then call MD5Final, which
* will fill a supplied 16-byte array with the digest.
*/

```

Found in path(s):

```

* /opt/cola/permits/1710121454_1686274631.697395/0/sqlite-3.6.20-1.el6-1.src.rpm-cosi-expand-archive-
MhwfXaVq/sqlite-3.6.20.tar.gz-cosi-expand-archive-aSRXUdvA/sqlite-3.6.20/src/tclsqlite.c

```

# 1.122 inetutils 1.5

## 1.122.1 Available under license :

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Upstream-Contact: Doug Ledford <dledford@redhat.com>,

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Source: <https://github.com/linux-rdma/rdma-core>

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# 1.124 lvm2 1.02.74

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## 1.125 libnsl 2.12

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```
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This is free software, and you are welcome to redistribute
it
under certain conditions; type `show c' for details.
```

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```
Yoyodyne, Inc., hereby disclaims all copyright interest in the program
`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

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## 1.128 hostapd 2.10

### 1.128.1 Available under license :

wpa\_supplicant and hostapd  
-----

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## 1.129 iputils 20071127

### 1.129.1 Available under license :

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```
/* Mode: C;
* ifenslave.c: Configure network interfaces for parallel routing.
*
* This program controls the Linux implementation of running multiple
* network interfaces in parallel.
*
* Author: Donald Becker <becker@cesdis.gsfc.nasa.gov>
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*
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*
* The author may be reached as becker@CESDIS.gsfc.nasa.gov, or C/O
* Center of Excellence in Space Data and Information Sciences
* Code 930.5, Goddard Space Flight Center, Greenbelt MD 20771
*
* Changes :
* - 2000/10/02 Willy Tarreau <willy at meta-x.org> :
* - few fixes. Master's MAC address is now correctly taken from
* the first device when not previously set ;
* - detach support : call BOND_RELEASE to detach an enslaved
```

interface.

- \* - give a mini-howto from command-line help : # ifenslave -h
- \*
- \* - 2001/02/16 Chad N. Tindel <ctindel at ieee dot org> :
- \* - Master is now brought down before setting the MAC address. In the 2.4 kernel you can't change the MAC address while the device is up because you get EBUSY.
- \*
- \* - 2001/09/13 Takao Indoh <indou dot takao at jp dot fujitsu dot com>
- \* - Added the ability to change the active interface on a mode 1 bond at runtime.
- \*
- \* - 2001/10/23 Chad N. Tindel <ctindel at ieee dot org> :
- \* - No longer set the MAC address of the master. The bond device will take care of this itself
- \* - Try the SIOC\*\*\* versions of the bonding ioctls before using the old versions
- \* - 2002/02/18 Erik Habbinga <erik\_habbinga @ hp dot com> :
- \* - ifr2.ifr\_flags was not initialized in the hwaddr\_notset case, SIOCGIFFLAGS now called before hwaddr\_notset test
- \*
- \*
- 2002/10/31 Tony Cureington <tony.cureington \* hp\_com> :
- \* - If the master does not have a hardware address when the first slave is enslaved, the master is assigned the hardware address of that slave - there is a comment in bonding.c stating "ifenslave takes care of this now." This corrects the problem of slaves having different hardware addresses in active-backup mode when multiple interfaces are specified on a single ifenslave command (ifenslave bond0 eth0 eth1).
- \*
- \* - 2003/03/18 - Tsippy Mendelson <tsippy.mendelson at intel dot com> and Shmulik Hen <shmulik.hen at intel dot com>
- \* - Moved setting the slave's mac address and opening it, from the application to the driver. This enables support of modes that need to use the unique mac address of each slave. The driver also takes care of closing the slave and restoring its original mac address upon release.
- \* - In addition, block possibility of enslaving before the master is up. This prevents putting the system in an undefined state.
- \*
- \* - 2003/05/01 - Amir Noam <amir.noam at intel dot com>
- \* - Added ABI version control to restore compatibility between new/old ifenslave and new/old bonding.
- \* - Prevent adding an adapter that is already a slave. Fixes the problem of stalling the transmission and leaving the slave in a down state.
- \*

- \*
  - \* - 2003/05/01 - Shmulik Hen <shmulik.hen at intel dot com>
  - \* - Prevent enslaving if the bond device is down.
  - \* Fixes the problem of leaving the system in unstable state and
  - \* halting when trying to remove the module.
  - \* - Close socket on all abnormal exists.
  - \* - Add versioning scheme that follows that of the bonding driver.
  - \* current version is 1.0.0 as a base line.
- \*
  - \* - 2003/05/22 - Jay Vosburgh <fubar at us dot
  - ibm dot com>
  - \* - ifenslave -c was broken; it's now fixed
  - \* - Fixed problem with routes vanishing from master during enslave
  - \* processing.
- \*
  - \* - 2003/05/27 - Amir Noam <amir.noam at intel dot com>
  - \* - Fix backward compatibility issues:
  - \* For drivers not using ABI versions, slave was set down while
  - \* it should be left up before enslaving.
  - \* Also, master was not set down and the default set\_mac\_address()
  - \* would fail and generate an error message in the system log.
  - \* - For opt\_c: slave should not be set to the master's setting
  - \* while it is running. It was already set during enslave. To
  - \* simplify things, it is now handled separately.
- \*
  - \* - 2003/12/01 - Shmulik Hen <shmulik.hen at intel dot com>
  - \* - Code cleanup and style changes
  - \* set version to 1.1.0
- \*/

Found in path(s):

\* /opt/cola/permits/1826509821\_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-bNmuq1F3/ifenslave.tar.gz-cosi-expand-archive-IFO5NfhD/ifenslave.c

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\* /opt/cola/permits/1826509821\_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-bNmuq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/iputils.spec

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* /opt/cola/permits/1826509821_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-
bNmUq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/doc/clockdiff.sgml
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bNmUq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/doc/traceroute6.sgml
* /opt/cola/permits/1826509821_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-
bNmUq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/doc/rarpd.sgml
```

\*

```
/opt/cola/permits/1826509821_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-
bNmUq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/doc/arping.sgml
```

```
* /opt/cola/permits/1826509821_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-
bNmUq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/doc/tracepath.sgml
```

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/\*

\* tracepath6.c

\*

```
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* modify it under the terms of the GNU General Public License
* as published by the Free Software Foundation; either version
* 2 of the License, or (at your option) any later version.
```

\*

```
* Authors: Alexey Kuznetsov, <kuznet@ms2.inr.ac.ru>
```

\*/

Found in path(s):

```
* /opt/cola/permits/1826509821_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-
bNmUq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/tracepath6.c
```

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bNmUq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/doc/tftpd.sgml
```

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=head1 NAME

docbook2man-spec - convert DocBook RefEntries to Unix manpages

## =head1 SYNOPSIS

The SGMLSpM package from CPAN. This contains the sgmlspl script which is used to grok this file. Use it like this:

```
nsgmls some-docbook-document.sgml | sgmlspl docbook2man-spec.pl
```

## =head1 DESCRIPTION

This is a sgmlspl spec file that produces Unix-style manpages from RefEntry markup.

See the accompanying RefEntry man page for 'plain new' documentation. :)

## =head1 LIMITATIONS

Trying docbook2man on non-DocBook or non-conformant SGML results in undefined behavior. :-)

This program is a slow, dodgy Perl script.

This program does not come close to supporting all the possible markup in DocBook, and will produce wrong output in some cases with supported markup.

## =head1 TODO

Add new element handling and fix existing handling. Be robust.

Produce cleanest, readable man output as possible (unlike some other converters). Follow

Linux man(7) convention.

If this results in added logic in this script,

that's okay. The code should still be reasonably organized.

Make it faster. If Perl sucks port it to another language.

## =head1 COPYRIGHT

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=cut

# \$Id: docbook2man-spec.pl,v 1.1 2000/07/21 20:22:30 rosalia Exp \$

use SGMLS; # Use the SGMLS package.  
use SGMLS::Output; # Use stack-based output.  
use SGMLS::Refs;

#####

# SGMLSPL script produced automatically by  
the script sgmlspl.pl

#

# Document Type: any, but processes only RefEntries

# Edited by: me :)

#####

\$write\_manpages = 0;

\$blank\_xrefs = 0;

sgml('start', sub {  
 push\_output('nul');  
 \$raw\_cdata = 1; # Makes it a bit faster.

# Links file

open(LINKSFILE, ">manpage.links");

\$Refs = new SGMLS::Refs("manpage.refs");

});

sgml('end', sub {

close(LINKSFILE);

if(\$blank\_xrefs) {

print STDERR "Warning: output contains unresolved XRefs\n";

}

});

#####

#

# Output helpers

#

#####

# Our own version of sgml() and output() to allow simple string output

# to play well with roff's stupid whitespace rules.

```

sub man_sgml
{
  if(ref($_[1]) eq 'CODE') {
    return &sgml;
  }

  my $s = $_[1];

  $s =~ s/\\|\\|\\|g;
  $s =~ s/'/\'/g;

  # \n at the beginning means start at beginning of line
  if($s
  =~ s/^\n/) {
    $sub = 'sub { output "\n" unless $newline_last++; ';
    if($s eq ") {
      sgml($_[0], eval('sub { output "\n" unless $newline_last++; }'));
    } elsif($s =~ ^\n$/) {
      sgml($_[0], eval("sub { output '\\n\\n' unless \\$newline_last++; output '$s'; }"));
    } else {
      sgml($_[0], eval("sub { output '\\n\\n' unless \\$newline_last; output '$s'; \\$newline_last = 0; }"));
    }
  } else {
    if($s =~ ^\n$/) {
      sgml($_[0], eval("sub { output '$s'; \\$newline_last = 1; }"));
    } else {
      sgml($_[0], eval("sub { output '$s'; \\$newline_last = 0; }"));
    }
  }
}

sub man_output
{
  $_ = shift;
  if(s/^\n/) {
    output "\n" unless $newline_last++;
  }
  return if $_ eq ";

  output $_;

  if(@_) {
    output @_;
    $newline_last = (pop(@_) =~ ^\n$/);
  } else {
    $newline_last = ($_ =~ ^\n$/);
  }
}

```

```

# Fold lines into one, quote some characters
sub fold_string
{
$_ = shift;

s^\\|\\|/g;
s/"^\\|&"/g;

# Change tabs to spaces
tr/^t/n/ /;

# Trim whitespace from beginning and end.
s/^ +//;
s/
+$/;

return $_;
}

sub save_cdata()
{
$raw_cdata++;
push_output('string');
}

sub bold_on()
{
# If the last font is also bold, don't change anything.
# Basically this is to just get more readable man output.
if($fontstack[$#fontstack] ne 'bold') {
if(!$raw_cdata) {
output '\fB';
$newline_last = 0;
}
}
push(@fontstack, 'bold');
}

sub italic_on()
{
# If the last font is also italic, don't change anything.
if($fontstack[$#fontstack] ne 'italic') {
if(!$raw_cdata) {
output '\fI';
$newline_last = 0;
}
}
}

```

```

push(@fontstack, 'italic');
}

sub font_off()
{
my $thisfont = pop(@fontstack);
my $lastfont = $fontstack[$#fontstack];

# Only output font change if it is different
if($thisfont ne $lastfont) {
if($raw_cdata) { return; }
elsif($lastfont eq 'bold') { output '\fB'; }
elsif($lastfont eq 'italic') { output '\fI'; }
else { output '\fR'; }

$newline_last = 0;
}
}

```

```

#####
#
#
Manpage management
#
#####

```

```

sgml('<REFENTRY>', sub {
# This will be overwritten at end of REFMETA, when we know the name of the page.
pop_output();

```

```

$write_manpages = 1; # Currently writing manpage.

```

```

$nocollapse_whitespace = 0; # Current whitespace collapse counter.

```

```

$newline_last = 1; # At beginning of line?

```

```

# Just a bit of warning, you will see this variable manipulated

```

```

# manually a lot. It makes the code harder to follow but it

```

```

# saves you from having to worry about collapsing at the end of

```

```

# parse, stopping at verbatims, etc.

```

```

$raw_cdata = 0; # Instructs certain output functions to

```

```

# leave CDATA alone, so we can assign

```

```

# it to a string and process it, etc.

```

```

@fontstack = (); # Fonts being activated.

```

```

$manpage_title = ""; # Needed for indexing.
$manpage_sect = "";
@manpage_names = ();

$manpage_misc = "";

$list_nestlevel = 0; # Indent certain nested
content.
});
sgml('</REFENTRY>', sub {
if(!$newline_last) {
output "\n";
}

$write_manpages = 0;
$raw_cdata = 1;
push_output('nul');
});

sgml('</REFMETA>', sub {
push_output('file', "$manpage_title.$manpage_sect");

output <<_END_BANNER;
.\\ " This manpage has been automatically generated by docbook2man
.\\ " from a DocBook document. This tool can be found at:
.\\ " <http://shell.ipoline.com/~elmert/comp/docbook2X/>
.\\ " Please send any bug reports, improvements, comments, patches,
.\\ " etc. to Steve Cheng <steve\@ggi-project.org>.
_END_BANNER

my $manpage_date = `date "+%d %B %Y"`;

output '.TH "'';

# If the title is not mixed-case, convention says to
# uppercase the whole title. (The canonical title is
# lowercase.)
if($manpage_title =~ /[A-Z]/) {
output fold_string($manpage_title);
} else {
output uc(fold_string($manpage_title));
}

output "' '", fold_string($manpage_sect),
"' '", fold_string(`date "+%d %B %Y"`),
"' '", $manpage_misc,
"' '",

```

```

$manpage_manual,
"\n";

$newline_last = 1;

# References to this RefEntry.
my $id = $_[0]->parent->attribute('ID')->value;
if($id ne "") {
    # The 'package name' part of the section should
    # not be used when citing it.
    my ($sectnum) = ($manpage_sect =~ /([0-9]*)/);

    if($_[0]->parent->attribute('XREFLABEL')->value eq "") {
        $Refs->put("refentry:$id", "$manpage_title($sectnum)");
    } else {
        $Refs->put("refentry:$id",
            $_[0]->parent->attribute('XREFLABEL')->value .
            "($sectnum)");
    }
}
});

sgml('<REFENTRYTITLE>', sub {
    if($_[0]->in('REFMETA')) {
        save_cdata();
    } else {
        # Manpage citations are in bold.
        bold_on();
    }
});

sgml('</REFENTRYTITLE>', sub {
    if($_[0]->in('REFMETA')) {
        $raw_cdata--;
        $manpage_title = pop_output();
    }
    else { font_off(); }
});

sgml('<MANVOLNUM>', sub {
    if($_[0]->in('REFMETA')) {
        save_cdata();
    } else {
        # Manpage citations use ().
        output '(';
    }
});

sgml('</MANVOLNUM>', sub {
    if($_[0]->in('REFMETA')) {

```



```

$raw_cdata--;
$manpage_sect
= pop_output();
}
else { output ' ' }
});

sgml('<REFMISCINFO>', \&save_cdata);
sgml('</REFMISCINFO>', sub {
$raw_cdata--;
$manpage_misc = fold_string(pop_output());
});

# NAME section
man_sgml('<REFNAMEDIV>', "\n.SH NAME\n");

sgml('<REFNAME>', \&save_cdata);
sgml('</REFNAME>', sub {
$raw_cdata--;
push(@manpage_names, pop_output());
});

sgml('<REFPURPOSE>', \&save_cdata);
sgml('</REFPURPOSE>', sub {
$raw_cdata--;
my $manpage_purpose = fold_string(pop_output());

for(my $i = 0; $i < $#manpage_names; $i++) {
output fold_string($manpage_names[$i]), ' ';
}

output fold_string($manpage_names[$#manpage_names]);
output " \|- $manpage_purpose\n";

$newline_last = 1;

foreach(@manpage_names) {
# Don't link to itself
if($_ ne $manpage_title) {
print LINKSFILE "$manpage_title.$manpage_sect $_.$manpage_sect\n";
}
}
});

man_sgml('<REFCLASS>', "\n.sp\n");

#RefDescriptor

```

```
#####
#
#
SYNOPSIS section and synopses
#
#####

man_sgml('<REFSYNOPSISDIV>', "\n.SH SYNOPSIS\n");
man_sgml('</REFSYNOPSISDIV>', "\n");

## FIXME! Must be made into block elements!!
#sgml('<FUNCSYNOPSIS>', \&bold_on);
#sgml('</FUNCSYNOPSIS>', \&font_off);
#sgml('<CMDSYNOPSIS>', \&bold_on);
#sgml('</CMDSYNOPSIS>', \&font_off);

man_sgml('<FUNCSYNOPSIS>', sub {
  man_output("\n.sp\n");
  bold_on();
});
man_sgml('</FUNCSYNOPSIS>', sub {
  font_off();
  man_output("\n");
});

man_sgml('<CMDSYNOPSIS>', "\n\n");
man_sgml('</CMDSYNOPSIS>', "\n\n");

man_sgml('<FUNCPROTOTYPE>', "\n.sp\n");

# Arguments to functions. This is C convention.
man_sgml('<PARAMDEF>', '(');
man_sgml('</PARAMDEF>', '); \n');
man_sgml('<VOID>', "(void); \n");

sub arg_start
{
  # my $choice = $_[0]->attribute('CHOICE')->value;

  # The content model for CmdSynopsis doesn't include #PCDATA,
  # so we won't see any of the whitespace in the source file,
```

```

#
so we have to add it after each component.
output ' ';

if($_[0]->attribute('CHOICE')->value =~ /opt/i) {
    output '[';
}
bold_on();
}
sub arg_end
{
    font_off();
    if($_[0]->attribute('REP')->value =~ /^Repeat/i) {
        italic_on();
        output ' ...';
        font_off();
    }
    if($_[0]->attribute('CHOICE')->value =~ /opt/i) {
        output ']';
    }
}

sgml('<ARG>', \&arg_start);
sgml('</ARG>', \&arg_end);
sgml('<GROUP>', \&arg_start);
sgml('</GROUP>', \&arg_end);

sgml('<OPTION>', \&bold_on);
sgml('</OPTION>', \&font_off);

# FIXME: This is one _blank_ line.
man_sgml('<SBR>', "\n\n");

#####
#
# General sections
#
#####

# The name of the section is handled by TITLE. This just sets
# up the roff markup.
man_sgml('<REFSECT1>', "\n.SH ");
man_sgml('<REFSECT2>', "\n.SS ");
man_sgml('<REFSECT3>', "\n.SS ");

#####

```

```

#
#
Titles, metadata.
#
#####

sgml('<TITLE>', sub {
  if($_->in('REFERENCE') or $_->in('BOOK')) {
    $write_manpages = 1;
  }
  save_cdata();
});
sgml('</TITLE>', sub {
  my $title = fold_string(pop_output());
  $raw_cdata--;

  if($_->in('REFERENCE') or $_->in('BOOK')) {
    # We use TITLE of enclosing Reference or Book as manual name
    $manpage_manual = $title;
    $write_manpages = 0;
  }
  elsif(exists $_->parent->ext->{'title'}) {
    # By far the easiest case. Just fold the string as
    # above, and then set the parent element's variable.
    $_->parent->ext->{'title'} = $title;
  }
  else {
    # If the parent element's handlers are lazy,
    # output the folded string for them :)
    # We assume they want uppercase and a newline.
    output "", uc($title), "\\n";
    $newline_last = 1;
  }
});

sgml('<ATTRIBUTION>', sub { push_output('string') });
sgml('</ATTRIBUTION>', sub { $_->parent->ext->{'attribution'}
= pop_output(); });

# IGNORE.
sgml('<DOCINFO>', sub { push_output('nul'); });
sgml('</DOCINFO>', sub { pop_output(); });
sgml('<REFSECT1INFO>', sub { push_output('nul'); });
sgml('</REFSECT1INFO>', sub { pop_output(); });
sgml('<REFSECT2INFO>', sub { push_output('nul'); });
sgml('</REFSECT2INFO>', sub { pop_output(); });
sgml('<REFSECT3INFO>', sub { push_output('nul'); });

```

sgml('</REFSECT3INFO>', sub { pop\_output(); });

sgml('<INDEXTERM>', sub { push\_output('nul'); });

sgml('</INDEXTERM>', sub { pop\_output(); });

#####

#

# Set bold on enclosed content

#

#####

sgml('<APPLICATION>', \&bold\_on); sgml('</APPLICATION>', \&font\_off);

sgml('<CLASSNAME>', \&bold\_on); sgml('</CLASSNAME>', \&font\_off);

sgml('<STRUCTNAME>', \&bold\_on); sgml('</STRUCTNAME>', \&font\_off);

sgml('<STRUCTFIELD>', \&bold\_on); sgml('</STRUCTFIELD>', \&font\_off);

sgml('<SYMBOL>',

\&bold\_on); sgml('</SYMBOL>', \&font\_off);

sgml('<TYPE>', \&bold\_on); sgml('</TYPE>', \&font\_off);

sgml('<ENVAR>', \&bold\_on); sgml('</ENVAR>', \&font\_off);

sgml('<FUNCTION>', \&bold\_on); sgml('</FUNCTION>', \&font\_off);

sgml('<EMPHASIS>', \&bold\_on); sgml('</EMPHASIS>', \&font\_off);

sgml('<ERRORNAME>', \&bold\_on); sgml('</ERRORNAME>', \&font\_off);

# ERRORTYPE

sgml('<COMMAND>', \&bold\_on); sgml('</COMMAND>', \&font\_off);

sgml('<GUIBUTTON>', \&bold\_on); sgml('</GUIBUTTON>', \&font\_off);

sgml('<GUIICON>', \&bold\_on); sgml('</GUIICON>', \&font\_off);

# GUILABEL

# GUIMENU

# GUIMENUITEM

# GUISUBMENU

# MENUCHOICE

# MOUSEBUTTON

sgml('<ACCEL>', \&bold\_on); sgml('</ACCEL>', \&font\_off);

sgml('<KEYCAP>', \&bold\_on); sgml('</KEYCAP>', \&font\_off);

sgml('<KEYSYM>', \&bold\_on); sgml('</KEYSYM>', \&font\_off);

# KEYCODE

# KEYCOMBO

# SHORTCUT

```
sgml('<USERINPUT>', \&bold_on); sgml('</USERINPUT>', \&font_off);
```

```
sgml('<INTERFACEDEFINITION>', \&bold_on);
```

```
sgml('</INTERFACEDEFINITION>', \&font_off);
```

```
#
```

```
May need to look at the CLASS
```

```
sgml('<SYSTEMITEM>', \&bold_on);
```

```
sgml('</SYSTEMITEM>', \&font_off);
```

```
#####
```

```
#
```

```
# Set italic on enclosed content
```

```
#
```

```
#####
```

```
sgml('<FIRSTTERM>', \&italic_on); sgml('</FIRSTTERM>', \&font_off);
```

```
sgml('<FILENAME>', \&italic_on); sgml('</FILENAME>', \&font_off);
```

```
sgml('<PARAMETER>', \&italic_on); sgml('</PARAMETER>', \&font_off);
```

```
sgml('<PROPERTY>', \&italic_on); sgml('</PROPERTY>', \&font_off);
```

```
sgml('<REPLACEABLE>', sub {
```

```
italic_on();
```

```
if($_[0]->in('TOKEN')) {
```

```
  # When tokenizing, follow more 'intuitive' convention
```

```
  output "<";
```

```
}
```

```
});
```

```
sgml('</REPLACEABLE>', sub {
```

```
if($_[0]->in('TOKEN')) {
```

```
  output ">";
```

```
}
```

```
font_off();
```

```
});
```

```
sgml('<CITETITLE>', \&italic_on); sgml('</CITETITLE>', \&font_off);
```

```
sgml('<FOREIGNPHRASE>', \&italic_on); sgml('</FOREIGNPHRASE>', \&font_off);
```

```
sgml('<LINEANNOTATION>', \&italic_on); sgml('</LINEANNOTATION>',
```

```
\&font_off);
```

```

#####
#
# Other 'inline' elements
#
#####

man_sgml('<EMAIL>', '<');
man_sgml('</EMAIL>', '>');
man_sgml('<OPTIONAL>', '[');
man_sgml('</OPTIONAL>', ']');

man_sgml('</TRADEMARK>', "\\u\\s-2TM\\s+2\\d");

man_sgml('<COMMENT>', "[Comment: ");
man_sgml('</COMMENT>', "]");

man_sgml('<QUOTE>', "`");
man_sgml('</QUOTE>', "`");

#man_sgml('<LITERAL>', '"');
#man_sgml('</LITERAL>', '"');

# No special presentation:

# AUTHOR
# AUTHORINITIALS

# ABBREV
# ACTION
# ACRONYM
# ALT
# CITATION
# PHRASE
# QUOTE
# WORDASWORD

# COMPUTEROUTPUT
# MARKUP
# PROMPT
# RETURNVALUE
# SGMLTAG
# TOKEN

# DATABASE
# HARDWARE

```

```

# INTERFACE
# MEDIALABEL

# There doesn't seem to be a good way to represent LITERAL in -man

#####
#
# Paragraph and paragraph-like elements
#
#####

sub
para_start {
output "\n" unless $newline_last++;

# In lists, etc., don't start paragraph with .PP since
# the indentation will be gone.

if($_[0]->parent->ext->{'nobreak'}==1) {
# Usually this is the FIRST element of
# a hanging tag, so we MUST not do a full
# paragraph break.
$_[0]->parent->ext->{'nobreak'} = 2;
} elsif($_[0]->parent->ext->{'nobreak'}==2) {
# Usually these are the NEXT elements of
# a hanging tag. If we break using a blank
# line, we're okay.
output "\n";
} else {
# Normal case. (For indented blocks too, at least
# -man isn't so braindead in this area.)
output ".PP\n";
}
}

# Actually applies to a few other block elements as well
sub para_end {
output "\n" unless $newline_last++;
}

sgml('<PARA>', \&para_start);
sgml('</PARA>', \&para_end);
sgml('<SIMPARA>', \&para_start);
sgml('</SIMPARA>', \&para_end);

# Nothing special, except maybe FIXME set nobreak.
sgml('<INFORMALEXAMPLE>',

```



```
\&para_start);
sgml('</INFORMALEXAMPLE>', \&para_end);
```

```
#####
#
# Blocks using SS sections
#
#####
```

```
# FIXME: We need to consider the effects of SS
# in a hanging tag :(
```

```
# Complete with the optional-title dilemma (again).
sgml('<ABSTRACT>', sub {
  $_[0]->ext->{'title'} = 'ABSTRACT';
  output "\n" unless $newline_last++;
  push_output('string');
});
sgml('</ABSTRACT>', sub {
  my $content = pop_output();
```

```
# As ABSTRACT is never on the same level as RefSect1,
# this leaves us with only .SS in terms of -man macros.
output ".SS \"", uc($_[0]->ext->{'title'}), "\"\n";
```

```
output $content;
output "\n" unless $newline_last++;
});
```

```
# Ah, I needed a break. Example always has a title.
man_sgml('<EXAMPLE>', "\n.SS ");
sgml('</EXAMPLE>', \&para_end);
```

```
# Same with sidebar.
man_sgml('<SIDEBAR>', "\n.SS ");
sgml('</SIDEBAR>', \&para_end);
```

```
# NO title.
man_sgml('<HIGHLIGHTS>',
  "\n.SS HIGHLIGHTS\n");
sgml('</HIGHLIGHTS>', \&para_end);
```

```
#####
#
# Indented 'Block' elements
#
#####

sub indent_block_start
{
  output "\n" unless $newline_last++;
  output ".sp\n.RS\n";
}
sub indent_block_end
{
  output "\n" unless $newline_last++;
  output ".RE\n";
}

# This element is almost like an admonition (below),
# only the default title is blank :)

sgml('<BLOCKQUOTE>', sub {
  $_[0]->ext->{'title'} = "";
  output "\n" unless $newline_last++;
  push_output('string');
});
sgml('</BLOCKQUOTE>', sub {
  my $content = pop_output();

  indent_block_start();

  if($_[0]->ext->{'title'}) {
    output ".B \"", $_[0]->ext->{'title'}, ":\n";
  }

  output $content;

  if($_[0]->ext->{'attribution'}) {
    output "\n" unless $newline_last++;
    # One place where roff's space-sensitivity makes sense :)
    output "\n      -- ";
    output
    $_[0]->ext->{'attribution'} . "\n";
  }

  indent_block_end();
});
```

```

# Set off admonitions from the rest of the text by indenting.
# FIXME: Need to check if this works inside paragraphs, not enclosing them.
sub admonition_end {
    my $content = pop_output();

    indent_block_start();

    # When the admonition is only one paragraph,
    # it looks nicer if the title was inline.
    my $num_para;
    while ($content =~ /\^\.PP/gm) { $num_para++ }
    if($num_para==1) {
        $content =~ s/\^\.PP\n//;
    }

    output ".B \"\" . $_[0]->ext->{'title'} . \"\":\"\\n\";
    output $content;

    indent_block_end();
}

sgml('<NOTE>', sub {
    # We can't see right now whether or not there is a TITLE
    # element, so we have to save the output now and add it back
    # at the end of this admonition.
    $_[0]->ext->{'title'} = 'Note';

    # Although admonition_end's indent_block_start will do this,
    # we need to synchronize the output _now_
    output "\\n" unless $newline_last++;

    push_output('string');
});
sgml('</NOTE>', \&admonition_end);

#
# Same as above.
sgml('<WARNING>', sub {
    $_[0]->ext->{'title'} = 'Warning';
    output "\\n" unless $newline_last++;
    push_output('string');
});
sgml('</WARNING>', \&admonition_end);

sgml('<TIP>', sub {
    $_[0]->ext->{'title'} = 'Tip';
    output "\\n" unless $newline_last++;
    push_output('string');
});

```

```

});
sgml('</TIP>', \&admonition_end);
sgml('<CAUTION>', sub {
    $_[0]->ext->{'title'} = 'Caution';
    output "\n" unless $newline_last++;
    push_output('string');
});
sgml('</CAUTION>', \&admonition_end);

sgml('<IMPORTANT>', sub {
    $_[0]->ext->{'title'} = 'Important';
    output "\n" unless $newline_last++;
    push_output('string');
});
sgml('</IMPORTANT>', \&admonition_end);

```

```

#####
#
# Verbatim displays.
#
#####

```

```

sub verbatim_start {
    output "\n" unless $newline_last++;

    if($_[0]->parent->ext->{'nobreak'}==1) {
        # Usually this is the FIRST element of
        #
        a hanging tag, so we MUST not do a full
        # paragraph break.
        $_[0]->parent->ext->{'nobreak'} = 2;
    } else {
        output "\n";
    }

    output(".nf\n") unless $nocollapse_whitespace++;
}

```

```

sub verbatim_end {
  output "\n" unless $newline_last++;
  output(".fi\n") unless --$nocollapse_whitespace;
}

sgml('<PROGRAMLISTING>', \&verbatim_start);
sgml('</PROGRAMLISTING>', \&verbatim_end);

sgml('<SCREEN>', \&verbatim_start);
sgml('</SCREEN>', \&verbatim_end);

sgml('<LITERALLAYOUT>', \&verbatim_start);
sgml('</LITERALLAYOUT>', \&verbatim_end);

#sgml('<SYNOPSIS>', sub {
# if($_[0]->attribute('FORMAT')->value =~ /linespecific/i) {
#   &verbatim_start;
# } else {
#   roffcmd("");
# }
#});
#
#sgml('</SYNOPSIS>', sub {
# if($_[0]->attribute('FORMAT')->value =~ /linespecific/i) {
#   &verbatim_end;
# }
# else {
#   roffcmd("");# not sure about this.
# }
#});
sgml('<SYNOPSIS>', \&verbatim_start);
sgml('</SYNOPSIS>', \&verbatim_end);

#####
#
#
Lists
#
#####

```

```

# Indent nested lists.
sub indent_list_start {
  if($list_nestlevel++) {
    output "\n" unless $newline_last++;
    output ".RS\n";
  }
}
sub indent_list_end {
  if(--$list_nestlevel) {
    output "\n" unless $newline_last++;
    output ".RE\n";
  }
}

sgml('<VARIABLELIST>', \&indent_list_start);
sgml('</VARIABLELIST>', \&indent_list_end);
sgml('<ITEMIZEDLIST>', \&indent_list_start);
sgml('</ITEMIZEDLIST>', \&indent_list_end);
sgml('<ORDEREDLIST>', sub {
  indent_list_start();
  $_[0]->ext->{'count'} = 1;
});
sgml('</ORDEREDLIST>', \&indent_list_end);

# Output content on one line, bolded.
sgml('<TERM>', sub {
  output "\n" unless $newline_last++;
  output ".TP\n";
  bold_on();
  push_output('string');
});
sgml('</TERM>', sub {
  my $term = pop_output();
  $term =~ tr/\n//;
  output $term;
  font_off();
  output "\n";
  $newline_last = 1;
});

sgml('<LISTITEM>', sub {
  # A bulleted list.
  if($_[0]->in('ITEMIZEDLIST'))
  {
    output "\n" unless $newline_last++;
    output ".TP 0.2i\n\\(bu\n";
  }
}

```

```

# Need numbers.
# Assume Arabic numeration for now.
elseif($_[0]->in('ORDEREDLIST')) {
    output "\n" unless $newline_last++;
    output ".TP ", $_[0]->parent->ext->{'count'}++, ". \n";
}

$_[0]->ext->{'nobreak'} = 1;
});

sgml('<SIMPLELIST>', sub {
    $_[0]->ext->{'first_member'} = 1;
});

sgml('<MEMBER>', sub {
    my $parent = $_[0]->parent;

    if($parent->attribute('TYPE')->value =~ /Inline/i) {
        if($parent->ext->{'first_member'}) {
            # If this is the first member don't put any commas
            $parent->ext->{'first_member'} = 0;
        } else {
            output ", ";
        }
    } elseif($parent->attribute('TYPE')->value =~ /Vert/i) {
        output "\n" unless $newline_last++;
        output "\n";
    }
});

#####
#
# Stuff we don't know how to handle (yet)
#
#####

# Address blocks:

# Credit stuff:
#
ACKNO
# ADDRESS
# AFFILIATION

```

```
# ARTPAGENUMS
# CONTRIBUTION
# AUTHORBLURB
# AUTHORGROUP
# OTHERCREDIT
# HONORIFIC
```

```
# Areas:
# AREA
# AREASET
# AREASPEC
```

```
#####
#
# Linkage, cross references
#
#####
```

```
# Print the URL
sgml('</ULINK>', sub {
# output ' <URL:', $_[0]->attribute('URL')->value, '>';
  $newline_last = 0;
});
```

```
# If cross reference target is a RefEntry,
# output CiteRefEntry-style references.
sgml('<XREF>', sub {
  my $id = $_[0]->attribute('LINKEND')->value;
  my $manref = $Refs->get("refentry:$id");
```

```
  if($manref) {
    my ($title, $sect) = ($manref =~ /(.*)(\(.*\))/);
    bold_on();
    output $title;
    font_off();
    output $sect;
  } else {
    $blank_xrefs++ if $write_manpages;
    output "[XRef to $id]";
  }
}
```

```
$newline_last = 0;
});
```



# Anchor

```
#####  
#  
# Other handlers  
#  
#####
```

```
man_sgml('|[lt  
  ]', '<');  
man_sgml('|[gt  ]', '>');  
man_sgml('|[amp ]', '&');
```

```
#  
# Default handlers (uncomment these if needed). Right now, these are set  
# up to gag on any unrecognised elements, sdata, processing-instructions,  
# or entities.  
#  
# sgml('start_element', sub { die "Unknown element: " . $_[0]->name; });  
# sgml('end_element', "");
```

```
# This is for weeding out and escaping certain characters.  
# This looks like it's inefficient since it's done on every line, but  
# in reality, SGMLSpM and sgmlspl parsing ESIS takes _much_ longer.
```

```
sgml('cdata', sub  
{  
  if(!$write_manpages) { return; }  
  elsif($raw_cdata) { output $_[0]; return; }
```

```
# Escape backslashes  
$_[0] =~ s/\\|\\|\\|\\|g;
```

```
# In non-'pre'-type elements:  
if(!$nocollapse_whitespace) {  
  # Change tabs to spaces  
  $_[0] =~ tr/t/ /;
```

```
# Do not allow indents at beginning of line  
# groff chokes on that.  
if($newline_last) {  
  $_[0] =~ s/^ +//;
```

```
# If the
```

line is all blank, don't do anything.

```
if($_[0] eq "") { return; }
```

```
$_[0] =~ s/^\.\|&\.\/;
```

```
# Argh... roff doesn't like ' either...
```

```
$_[0] =~ s/^\.\|&\.\/;
```

```
}
```

```
}
```

```
$newline_last = 0;
```

```
output $_[0];
```

```
});
```

```
# When in whitespace-collapsing mode, we disallow consecutive newlines.
```

```
sgml('re', sub
```

```
{
```

```
if($nocollapse_whitespace || !$newline_last) {
```

```
output "\n";
```

```
}
```

```
$newline_last = 1;
```

```
});
```

```
sgml('sdata',sub { die "Unknown SDATA: " . $_[0]; });
```

```
sgml('pi',sub { die "Unknown processing instruction: " . $_[0]; });
```

```
sgml('entity',sub { die "Unknown external entity: " . $_[0]->name; });
```

```
sgml('start_subdoc',sub { die "Unknown subdoc entity: " . $_[0]->name; });
```

```
sgml('end_subdoc','');
```

```
sgml('conforming','');
```

```
1;
```

Found in path(s):

```
* /opt/cola/permits/1826509821_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-bNmuq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/doc/docbook2man-spec.pl
```

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```

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```

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```

```
*
```

```
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```

```
* Mike Muuss.
```

```
*
```

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\*/  
/\*  
\* P I N G . C  
\*  
\* Using the InterNet Control Message Protocol (ICMP) "ECHO" facility,  
\* measure round-trip-delays and packet loss across network paths.  
\*  
\* Author -  
\* Mike Muuss  
\* U. S. Army Ballistic Research Laboratory  
\* December, 1983  
\*  
\* Status -  
\* Public Domain. Distribution Unlimited.  
\* Bugs -  
\* More statistics could always be gathered.  
\* This program has to run SUID to ROOT to access the ICMP socket.  
\*/

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bNmUq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/ping6.c
* /opt/cola/permits/1826509821_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-
bNmUq1F3/iputils-s20071127.tar.bz2-cosi-expand-archive-H511K8tN/iputils-s20071127/ping.c
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```

```
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*
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*           Uppsala University, Sweden
*
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*
*
*
*/
```

Found in path(s):

```
* /opt/cola/permits/1826509821_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-
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```

```
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* tracepath.c
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*
* Authors: Alexey Kuznetsov, <kuznet@ms2.inr.ac.ru>
*/
```

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```
* /opt/cola/permits/1826509821_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-
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- \* @(#)tftp.h 8.1 (Berkeley) 6/2/93
- \*/

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\*

/opt/cola/permits/1826509821\_1697762793.388391/0/iputils-20071127-24.el6-2.src.rpm-cosi-expand-archive-  
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/\*

\* arping.c

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```
/*
```

```
* rarpd.c RARP daemon.
```

```
*
```

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```
*
```

```
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```

```
*/
```

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```
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```

## 1.130 decorator 3.0.1

### 1.130.1 Available under license :

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## 1.131 e2fsprogs 1.41.12

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Index: tdbsa/tdb.c

=====

```
--- tdbsa.orig/tdb.c
+++ tdbsa/tdb.c
@@ -4,11 +4,11 @@ Rev: 23371
Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)
*/
/*
- Unix SMB/CIFS implementation.
+ trivial database library - standalone version

- trivial database library - private includes
-
- Copyright (C) Andrew Tridgell      2005
+ Copyright (C) Andrew Tridgell      1999-2005
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```

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Gadi Oxman, August 1995

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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This is the Debian GNU/Linux prepackaged version of the EXT2 file system utilities (e2fsck, mke2fs, etc.). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

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Theodore Ts'o  
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"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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That's all there is to it!

This is the Debian GNU/Linux prepackaged version of the Common Error Description library. It is currently distributed together with the EXT2 file system utilities, which are otherwise packaged as "e2fsprogs".

This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:  
[tsx-11.mit.edu:/pub/linux/packages/ext2fs/](http://tsx-11.mit.edu:/pub/linux/packages/ext2fs/)

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This is the Debian GNU/Linux prepackaged version of the EXT2 file system utilities (e2fsck, mke2fs, etc.). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from <http://sourceforge.net/projects/e2fsprogs>

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This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:  
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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Fri Dec 14 22:24:35 EST 2007

It is part of the main e2fsprogs distribution, which can be found at:

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## 1.132 gawk 4.0.2

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The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this

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5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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b) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

d) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

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<signature of Ty Coon>, 1 April 1990

Ty Coon, President of Vice

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Version 3, 29 June 2007

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stand

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[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

Preamble

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To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library, or if you modify it.

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Also, for each distributor's protection, we want to make certain that everyone understands that there is no warranty for this free library. If the library is modified by someone else and passed on, we want its recipients to know that what they have is not the original version, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that companies distributing free software will individually obtain patent licenses, thus in effect transforming the program into proprietary software. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License, which was designed for utility programs. This license, the GNU Library General Public License, applies to certain designated libraries. This license is quite different from the ordinary one; be sure to read it in full, and don't assume that anything in it is

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The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

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A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs



(which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

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b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify

that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the

use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also compile or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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<signature of Ty Coon>, 1 April 1990  
Ty Coon, President of Vice

That's all there is to it!

## 1.137 libusb-compat 0.1.12-23.el6

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Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

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When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits

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We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

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stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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```
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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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## 1.144 ustr 1.0.4-9.1.el6

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^L

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to most

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# 1.145 which 2.19-6.el6

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Version 3, 29 June 2007

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```
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# 1.146 epel-release 6-8

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## 1.147 libutempter 1.1.5-4.1.el6

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For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and

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"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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Thus, it is not the intent of this section to claim rights or contest

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

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License.

Section 6 states terms for distribution of such executables.

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6.

Any executables

containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified

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d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

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The

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cmd/krb5/kproplog/kproplog.c
cmd/krb5/slave/kpropd_rpc.c
lib/gss_mechs/mech_krb5/et/kdb5_err.c
lib/gss_mechs/mech_spnego/mech/gssapiP_spnego.h
lib/gss_mechs/mech_spnego/mech/spnego_mech.c
lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
lib/krb5/kdb/kdb_hdr.h
lib/krb5/kdb/kdb_log.c
lib/krb5/kdb/kdb_log.h
lib/libgss/g_accept_sec_context.c
lib/libgss/g_acquire_cred.c
lib/libgss/g_canon_name.c
lib/libgss/g_compare_name.c
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lib/libgss/g_delete_sec_context.c
```

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lib/libgss/g\_dsp\_status.c  
lib/libgss/g\_dup\_name.c  
lib/libgss/g\_exp\_sec\_context.c  
lib/libgss/g\_export\_name.c  
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lib/libgss/g\_rel\_cred.c  
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lib/libgss/g\_sign.c  
lib/libgss/g\_store\_cred.c  
lib/libgss/g\_unseal.c  
lib/libgss/g\_userok.c  
lib/libgss/g\_utils.c  
lib/libgss/g\_verify.c  
lib/libgss/gssd\_pname\_to\_uid.c  
uts/common/gssapi/include/gssapi\_err\_generic.h  
uts/common/gssapi/include/mechglueP.h

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lib/gssapi/mechglue/g\_accept\_sec\_context.c  
lib/gssapi/mechglue/g\_acquire\_cred.c  
lib/gssapi/mechglue/g\_canon\_name.c  
lib/gssapi/mechglue/g\_compare\_name.c  
lib/gssapi/mechglue/g\_context\_time.c  
lib/gssapi/mechglue/g\_delete\_sec\_context.c  
lib/gssapi/mechglue/g\_dsp\_name.c  
lib/gssapi/mechglue/g\_dsp\_status.c  
lib/gssapi/mechglue/g\_dup\_name.c  
lib/gssapi/mechglue/g\_exp\_sec\_context.c  
lib/gssapi/mechglue/g\_export\_name.c  
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lib/gssapi/mechglue/g\_imp\_sec\_context.c  
lib/gssapi/mechglue/g\_init\_sec\_context.c  
lib/gssapi/mechglue/g\_initialize.c  
lib/gssapi/mechglue/g\_inquire\_context.c  
lib/gssapi/mechglue/g\_inquire\_cred.c  
lib/gssapi/mechglue/g\_inquire\_names.c  
lib/gssapi/mechglue/g\_process\_context.c  
lib/gssapi/mechglue/g\_rel\_buffer.c  
lib/gssapi/mechglue/g\_rel\_cred.c  
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lib/gssapi/mechglue/g\_rel\_oid\_set.c  
lib/gssapi/mechglue/g\_seal.c  
lib/gssapi/mechglue/g\_sign.c  
lib/gssapi/mechglue/g\_store\_cred.c  
lib/gssapi/mechglue/g\_unseal.c  
lib/gssapi/mechglue/g\_userok.c  
lib/gssapi/mechglue/g\_utils.c  
lib/gssapi/mechglue/g\_verify.c  
lib/gssapi/mechglue/gssd\_pname\_to\_uid.c  
lib/gssapi/mechglue/mglueP.h  
lib/gssapi/mechglue/oid\_ops.c  
lib/gssapi/spnego/gssapiP\_spnego.h  
lib/gssapi/spnego/spnego\_mech.c  
@end  
smallexample

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kadmin/server/ipropr\_svc.c  
lib/kdb/ipropr.x  
lib/kdb/kdb\_convert.c  
lib/kdb/kdb\_log.c  
lib/kdb/kdb\_log.h  
lib/krb5/error\_tables/kdb5\_err.et  
slave/kpropd\_rpc.c  
slave/kproplog.c  
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@paragraphindent 0

@exampleindent 2

@documentencoding UTF-8

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@comment node-name, next, previous, up

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lib/gssapi/mechglue/g\_accept\_sec\_context.c  
lib/gssapi/mechglue/g\_acquire\_cred.c  
lib/gssapi/mechglue/g\_canon\_name.c  
lib/gssapi/mechglue/g\_compare\_name.c  
lib/gssapi/mechglue/g\_context\_time.c  
lib/gssapi/mechglue/g\_delete\_sec\_context.c  
lib/gssapi/mechglue/g\_dsp\_name.c

lib/gssapi/mechglue/g\_dsp\_status.c  
lib/gssapi/mechglue/g\_dup\_name.c  
lib/gssapi/mechglue/g\_exp\_sec\_context.c  
lib/gssapi/mechglue/g\_export\_name.c  
lib/gssapi/mechglue/g\_glue.c  
lib/gssapi/mechglue/g\_imp\_name.c  
lib/gssapi/mechglue/g\_imp\_sec\_context.c  
lib/gssapi/mechglue/g\_init\_sec\_context.c  
lib/gssapi/mechglue/g\_initialize.c  
lib/gssapi/mechglue/g\_inquire\_context.c  
lib/gssapi/mechglue/g\_inquire\_cred.c  
lib/gssapi/mechglue/g\_inquire\_names.c  
lib/gssapi/mechglue/g\_process\_context.c  
lib/gssapi/mechglue/g\_rel\_buffer.c  
lib/gssapi/mechglue/g\_rel\_cred.c  
lib/gssapi/mechglue/g\_rel\_name.c  
lib/gssapi/mechglue/g\_rel\_oid\_set.c  
lib/gssapi/mechglue/g\_seal.c  
lib/gssapi/mechglue/g\_sign.c  
lib/gssapi/mechglue/g\_store\_cred.c  
lib/gssapi/mechglue/g\_unseal.c  
lib/gssapi/mechglue/g\_userok.c  
lib/gssapi/mechglue/g\_utils.c  
lib/gssapi/mechglue/g\_verify.c  
lib/gssapi/mechglue/gssd\_pname\_to\_uid.c  
lib/gssapi/mechglue/mglueP.h  
lib/gssapi/mechglue/oid\_ops.c  
lib/gssapi/spnego/gssapiP\_spnego.h  
lib/gssapi/spnego/spnego\_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/ipropr\_hdr.h  
kadmin/server/ipropr\_svc.c  
lib/kdb/ipropr.x  
lib/kdb/kdb\_convert.c  
lib/kdb/kdb\_log.c  
lib/kdb/kdb\_log.h  
lib/krb5/error\_tables/kdb5\_err.et  
slave/kpropd\_rpc.c  
slave/kproplog.c

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```

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## 1.160 module-init-tools 3.9-21.el6\_4

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## 1.165 elfutils 0.152-1.el6

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```
<one line to give the program's name and a brief idea of what it does.>  
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```

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If the program is interactive, make it output a short notice like this  
when it starts in an interactive mode:

```
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Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
```

The hypothetical commands  
`show w' and `show c' should show the appropriate  
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```
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`Gnomovision' (which makes passes at compilers) written by James Hacker.
```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

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## 1.166.1 Available under license :

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Version 2, June 1991

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[This is the first released version of the library GPL. It is  
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The reason we have a separate public license for some libraries is that they blur the distinction we usually make between modifying or adding to a program and simply using it. Linking a program with a library, without changing the library, is in some sense simply using the library, and is analogous to running a utility program or application program. However, in a textual and legal sense, the linked executable is a combined work, a derivative of the original library, and the ordinary General Public License treats it as such.

Because of this blurred distinction, using the ordinary General Public License for libraries did not effectively promote software sharing, because most developers did not use the libraries. We concluded that weaker conditions might promote sharing better.

However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve

this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

Note that it is possible for a library to be covered by the ordinary General Public License rather than by this special one.

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"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must

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Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition,

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This option is useful when you wish to copy part of the code of the

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c) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

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For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

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<signature of Ty Coon>, 1 April 1990  
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Version 3, 29 June 2007

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```
<one line to give the program's name and a brief idea of what it does.>  
Copyright (C) <year> <name of author>
```

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Also add information on how to contact you by electronic and paper mail.

If the program does terminal interaction, make it output a short notice like this when it starts in an interactive mode:

```
<program> Copyright (C) <year> <name of author>  
This program comes with ABSOLUTELY NO WARRANTY; for details type `show w'.  
This is free software, and you are welcome to redistribute it  
under certain conditions; type `show c' for details.
```

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, your program's commands might be different; for a GUI interface, you would use an "about box".

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# 1.169 tzdata 2013c-2.el6

## 1.169.1 Available under license :

No license file was found, but licenses were detected in source scan.

: 'This file is in the public domain, so clarified as of'

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/yearistype.sh

No license file was found, but licenses were detected in source scan.

```
# <pre>
```

```
# This file is in the public domain, so clarified as of
```

```
# 2009-05-17 by Arthur David Olson.
```

```
#
```

```
# TZ zone descriptions
```

```
#
```

```
# From Paul Eggert (1996-08-05):
```

```
#
```

```
# This file contains a table with the following columns:
```

```
# 1. ISO 3166 2-character country code. See the file `iso3166.tab'.
```

```
# 2. Latitude and longitude of the zone's principal location
```

```
# in ISO 6709 sign-degrees-minutes-seconds format,
```

```
# either +-DDMM+DDDMM or +-DDMMSS+DDDMMSS,
```

```
# first latitude (+ is north), then longitude (+ is east).
```

```
# 3. Zone name used in value of TZ environment variable.
```

```
# 4. Comments; present if and only if the country has multiple rows.
```

```
#
```

```
# Columns are separated by a single tab.
```

```
# The table is sorted first by country, then an order within the country that
```

```
# (1) makes some geographical sense, and
```

```
# (2) puts the most populous zones first, where that does not contradict (1).
```

```
#
```

```
# Lines beginning with `#' are comments.
```

```
#
```

```
#country-
```

```
#code coordinates TZ comments
```

```
AD +4230+00131 Europe/Andorra
```

```
AE +2518+05518 Asia/Dubai
```

```
AF +3431+06912 Asia/Kabul
```

```
AG +1703-06148 America/Antigua
```

```
AI +1812-06304 America/Anguilla
```

```
AL +4120+01950 Europe/Tirane
```

```
AM +4011+04430 Asia/Yerevan
```

AO -0848+01314 Africa/Luanda  
AQ -7750+16636 Antarctica/McMurdo McMurdo  
Station, Ross Island  
AQ -9000+00000 Antarctica/South\_Pole Amundsen-Scott Station, South Pole  
AQ -6734-06808 Antarctica/Rothera Rothera Station, Adelaide Island  
AQ -6448-06406 Antarctica/Palmer Palmer Station, Anvers Island  
AQ -6736+06253 Antarctica/Mawson Mawson Station, Holme Bay  
AQ -6835+07758 Antarctica/Davis Davis Station, Vestfold Hills  
AQ -6617+11031 Antarctica/Casey Casey Station, Bailey Peninsula  
AQ -7824+10654 Antarctica/Vostok Vostok Station, Lake Vostok  
AQ -6640+14001 Antarctica/DumontD'Urville Dumont-d'Urville Station, Terre Adelie  
AQ -690022+0393524 Antarctica/Syowa Syowa Station, E Ongul I  
AR -3436-05827 America/Argentina/Buenos\_Aires Buenos Aires (BA, CF)  
AR -3124-06411 America/Argentina/Cordoba most  
locations (CB, CC, CN, ER, FM, MN, SE, SF)  
AR -2447-06525 America/Argentina/Salta (SA, LP, NQ, RN)  
AR -2411-06518 America/Argentina/Jujuy Jujuy (JY)  
AR -2649-06513 America/Argentina/Tucuman Tucuman (TM)  
AR -2828-06547 America/Argentina/Catamarca Catamarca (CT), Chubut (CH)  
AR -2926-06651 America/Argentina/La\_Rioja La Rioja (LR)  
AR -3132-06831 America/Argentina/San\_Juan San Juan (SJ)  
AR -3253-06849 America/Argentina/Mendoza Mendoza (MZ)  
AR -3319-06621 America/Argentina/San\_Luis San Luis (SL)  
AR -5138-06913 America/Argentina/Rio\_Gallegos Santa Cruz (SC)  
AR -5448-06818 America/Argentina/Ushuaia Tierra del Fuego (TF)  
AS -1416-17042 Pacific/Pago\_Pago  
AT +4813+01620 Europe/Vienna  
AU -3133+15905 Australia/Lord\_Howe Lord Howe Island  
AU -5430+15857 Antarctica/Macquarie Macquarie Island  
AU -4253+14719 Australia/Hobart Tasmania - most locations  
AU -3956+14352 Australia/Currie Tasmania - King Island  
AU -3749+14458 Australia/Melbourne Victoria  
AU -3352+15113 Australia/Sydney New  
South Wales - most locations  
AU -3157+14127 Australia/Broken\_Hill New South Wales - Yancowinna  
AU -2728+15302 Australia/Brisbane Queensland - most locations  
AU -2016+14900 Australia/Lindeman Queensland - Holiday Islands  
AU -3455+13835 Australia/Adelaide South Australia  
AU -1228+13050 Australia/Darwin Northern Territory  
AU -3157+11551 Australia/Perth Western Australia - most locations  
AU -3143+12852 Australia/Eucla Western Australia - Eucla area  
AW +1230-06958 America/Aruba  
AX +6006+01957 Europe/Mariehamn  
AZ +4023+04951 Asia/Baku  
BA +4352+01825 Europe/Sarajevo  
BB +1306-05937 America/Barbados  
BD +2343+09025 Asia/Dhaka  
BE +5050+00420 Europe/Brussels



BF +1222-00131 Africa/Ouagadougou  
BG +4241+02319 Europe/Sofia  
BH +2623+05035 Asia/Bahrain  
BI -0323+02922 Africa/Bujumbura  
BJ +0629+00237 Africa/Porto-Novo  
BL +1753-06251 America/St\_Barthelemy  
BM +3217-06446 Atlantic/Bermuda  
BN +0456+11455 Asia/Brunei  
BO -1630-06809 America/La\_Paz  
BQ +120903-0681636 America/Kralendijk  
BR -0351-03225 America/Noronha Atlantic  
islands  
BR -0127-04829 America/Belem Amapa, E Para  
BR -0343-03830 America/Fortaleza NE Brazil (MA, PI, CE, RN, PB)  
BR -0803-03454 America/Recife Pernambuco  
BR -0712-04812 America/Araguaina Tocantins  
BR -0940-03543 America/Maceio Alagoas, Sergipe  
BR -1259-03831 America/Bahia Bahia  
BR -2332-04637 America/Sao\_Paulo S & SE Brazil (GO, DF, MG, ES, RJ, SP, PR, SC, RS)  
BR -2027-05437 America/Campo\_Grande Mato Grosso do Sul  
BR -1535-05605 America/Cuiaba Mato Grosso  
BR -0226-05452 America/Santarem W Para  
BR -0846-06354 America/Porto\_Velho Rondonia  
BR +0249-06040 America/Boa\_Vista Roraima  
BR -0308-06001 America/Manaus E Amazonas  
BR -0640-06952 America/Eirunepe W Amazonas  
BR -0958-06748 America/Rio\_Branco Acre  
BS +2505-07721 America/Nassau  
BT +2728+08939 Asia/Thimphu  
BW -2439+02555 Africa/Gaborone  
BY +5354+02734 Europe/Minsk  
BZ +1730-08812 America/Belize  
CA +4734-05243 America/St\_Johns Newfoundland Time, including SE Labrador  
CA +4439-06336 America/Halifax Atlantic  
Time - Nova Scotia (most places), PEI  
CA +4612-05957 America/Glace\_Bay Atlantic Time - Nova Scotia - places that did not observe DST 1966-1971  
CA +4606-06447 America/Moncton Atlantic Time - New Brunswick  
CA +5320-06025 America/Goose\_Bay Atlantic Time - Labrador - most locations  
CA +5125-05707 America/Blanc-Sablon Atlantic Standard Time - Quebec - Lower North Shore  
CA +4531-07334 America/Montreal Eastern Time - Quebec - most locations  
CA +4339-07923 America/Toronto Eastern Time - Ontario - most locations  
CA +4901-08816 America/Nipigon Eastern Time - Ontario & Quebec - places that did not observe DST 1967-1973  
CA +4823-08915 America/Thunder\_Bay Eastern Time - Thunder Bay, Ontario  
CA +6344-06828 America/Iqaluit Eastern Time - east Nunavut - most locations  
CA +6608-06544 America/Pangnirtung Eastern Time - Pangnirtung, Nunavut  
CA +744144-0944945 America/Resolute Central Standard Time - Resolute, Nunavut  
CA +484531-0913718 America/Atikokan Eastern Standard Time - Atikokan, Ontario and Southampton

I, Nunavut  
CA +624900-0920459 America/Rankin\_Inlet Central Time - central Nunavut  
CA +4953-09709 America/Winnipeg Central Time - Manitoba & west Ontario  
CA +4843-09434 America/Rainy\_River Central Time - Rainy River & Fort Frances, Ontario  
CA +5024-10439 America/Regina Central Standard Time - Saskatchewan - most locations  
CA +5017-10750 America/Swift\_Current Central Standard Time - Saskatchewan - midwest  
CA +5333-11328 America/Edmonton Mountain Time - Alberta, east British Columbia & west Saskatchewan  
CA +690650-1050310 America/Cambridge\_Bay Mountain Time - west Nunavut  
CA +6227-11421 America/Yellowknife Mountain Time - central Northwest Territories  
CA +682059-1334300 America/Inuvik Mountain Time - west Northwest Territories  
CA +4906-11631 America/Creston Mountain Standard Time - Creston, British Columbia  
CA +5946-12014 America/Dawson\_Creek Mountain Standard Time - Dawson Creek & Fort Saint John, British Columbia  
CA +4916-12307 America/Vancouver Pacific Time - west British Columbia  
CA +6043-13503 America/Whitehorse Pacific Time - south Yukon  
CA +6404-13925 America/Dawson Pacific Time - north Yukon  
CC -1210+09655 Indian/Cocos  
CD -0418+01518 Africa/Kinshasa west Dem. Rep. of Congo  
CD -1140+02728 Africa/Lubumbashi east Dem. Rep. of Congo  
CF +0422+01835 Africa/Bangui  
CG -0416+01517 Africa/Brazzaville  
CH +4723+00832 Europe/Zurich  
CI +0519-00402 Africa/Abidjan  
CK -2114-15946 Pacific/Rarotonga  
CL -3327-07040 America/Santiago most locations  
CL -2709-10926 Pacific/Easter Easter Island & Sala y Gomez  
CM +0403+00942 Africa/Douala  
CN +3114+12128 Asia/Shanghai east China - Beijing, Guangdong, Shanghai, etc.  
CN +4545+12641 Asia/Harbin Heilongjiang (except Mohe), Jilin  
CN +2934+10635 Asia/Chongqing central China - Sichuan, Yunnan, Guangxi, Shaanxi, Guizhou, etc.  
CN +4348+08735 Asia/Urumqi most of Tibet & Xinjiang  
CN +3929+07559 Asia/Kashgar west Tibet & Xinjiang  
CO +0436-07405 America/Bogota  
CR +0956-08405 America/Costa\_Rica  
CU +2308-08222 America/Havana  
CV +1455-02331 Atlantic/Cape\_Verde  
CW +1211-06900 America/Curacao  
CX -1025+10543 Indian/Christmas  
CY +3510+03322 Asia/Nicosia  
CZ +5005+01426 Europe/Prague  
DE +5230+01322 Europe/Berlin most locations  
DE +4742+00841 Europe/Busingen Busingen  
DJ +1136+04309 Africa/Djibouti  
DK +5540+01235 Europe/Copenhagen  
DM +1518-06124 America/Dominica  
DO +1828-06954 America/Santo\_Domingo

DZ +3647+00303 Africa/Algiers  
EC -0210-07950 America/Guayaquil mainland  
EC -0054-08936 Pacific/Galapagos Galapagos Islands  
EE +5925+02445 Europe/Tallinn  
EG +3003+03115 Africa/Cairo  
EH +2709-01312 Africa/El\_Aaiun  
ER +1520+03853 Africa/Asmara  
ES +4024-00341 Europe/Madrid mainland  
ES +3553-00519 Africa/Ceuta Ceuta & Melilla  
ES +2806-01524 Atlantic/Canary Canary Islands  
ET +0902+03842 Africa/Addis\_Ababa  
FI +6010+02458 Europe/Helsinki  
FJ -1808+17825 Pacific/Fiji  
FK -5142-05751 Atlantic/Stanley  
FM +0725+15147 Pacific/Chuuk Chuuk (Truk) and Yap  
FM +0658+15813 Pacific/Pohnpei Pohnpei (Ponape)  
FM +0519+16259 Pacific/Kosrae Kosrae  
FO +6201-00646 Atlantic/Faroe  
FR +4852+00220 Europe/Paris  
GA +0023+00927 Africa/Libreville  
GB +513030-0000731 Europe/London  
GD +1203-06145 America/Grenada  
GE +4143+04449 Asia/Tbilisi  
GF +0456-05220 America/Cayenne  
GG +4927-00232 Europe/Guernsey  
GH +0533-00013 Africa/Accra  
GI +3608-00521 Europe/Gibraltar  
GL +6411-05144 America/Godthab most  
locations  
GL +7646-01840 America/Danmarkshavn east coast, north of Scoresbysund  
GL +7029-02158 America/Scoresbysund Scoresbysund / Ittoqqortoormiit  
GL +7634-06847 America/Thule Thule / Pituffik  
GM +1328-01639 Africa/Banjul  
GN +0931-01343 Africa/Conakry  
GP +1614-06132 America/Guadeloupe  
GQ +0345+00847 Africa/Malabo  
GR +3758+02343 Europe/Athens  
GS -5416-03632 Atlantic/South\_Georgia  
GT +1438-09031 America/Guatemala  
GU +1328+14445 Pacific/Guam  
GW +1151-01535 Africa/Bissau  
GY +0648-05810 America/Guyana  
HK +2217+11409 Asia/Hong\_Kong  
HN +1406-08713 America/Tegucigalpa  
HR +4548+01558 Europe/Zagreb  
HT +1832-07220 America/Port-au-Prince  
HU +4730+01905 Europe/Budapest  
ID -0610+10648 Asia/Jakarta Java

& Sumatra

ID -0002+10920 Asia/Pontianak west & central Borneo

ID -0507+11924 Asia/Makassar east & south Borneo, Sulawesi (Celebes), Bali, Nusa Tenggara, west Timor

ID -0232+14042 Asia/Jayapura west New Guinea (Irian Jaya) & Maluku (Moluccas)

IE +5320-00615 Europe/Dublin

IL +3146+03514 Asia/Jerusalem

IM +5409-00428 Europe/Isle\_of\_Man

IN +2232+08822 Asia/Kolkata

IO -0720+07225 Indian/Chagos

IQ +3321+04425 Asia/Baghdad

IR +3540+05126 Asia/Tehran

IS +6409-02151 Atlantic/Reykjavik

IT +4154+01229 Europe/Rome

JE +4912-00207 Europe/Jersey

JM +1800-07648 America/Jamaica

JO +3157+03556 Asia/Amman

JP +353916+1394441 Asia/Tokyo

KE -0117+03649 Africa/Nairobi

KG +4254+07436 Asia/Bishkek

KH +1133+10455 Asia/Phnom\_Penh

KI +0125+17300 Pacific/Tarawa Gilbert Islands

KI -0308-17105 Pacific/Enderbury Phoenix Islands

KI +0152-15720 Pacific/Kiritimati Line Islands

KM -1141+04316 Indian/Comoro

KN +1718-06243 America/St\_Kitts

KP +3901+12545 Asia/Pyongyang

KR +3733+12658 Asia/Seoul

KW +2920+04759 Asia/Kuwait

KY +1918-08123 America/Cayman

KZ +4315+07657 Asia/Almaty most

locations

KZ +4448+06528 Asia/Qyzylorda Qyzylorda (Kyzylorda, Kzyl-Orda)

KZ +5017+05710 Asia/Aqtobe Aqtobe (Aktobe)

KZ +4431+05016 Asia/Aqtau Atyrau (Atirau, Gur'yev), Mangghystau (Mankistau)

KZ +5113+05121 Asia/Oral West Kazakhstan

LA +1758+10236 Asia/Vientiane

LB +3353+03530 Asia/Beirut

LC +1401-06100 America/St\_Lucia

LI +4709+00931 Europe/Vaduz

LK +0656+07951 Asia/Colombo

LR +0618-01047 Africa/Monrovia

LS -2928+02730 Africa/Maseru

LT +5441+02519 Europe/Vilnius

LU +4936+00609 Europe/Luxembourg

LV +5657+02406 Europe/Riga

LY +3254+01311 Africa/Tripoli

MA +3339-00735 Africa/Casablanca

MC +4342+00723 Europe/Monaco

MD +4700+02850 Europe/Chisinau  
ME +4226+01916 Europe/Podgorica  
MF +1804-06305 America/Marigot  
MG -1855+04731 Indian/Antananarivo  
MH +0709+17112 Pacific/Majuro most locations  
MH +0905+16720 Pacific/Kwajalein Kwajalein  
MK +4159+02126 Europe/Skopje  
ML +1239-00800 Africa/Bamako  
MM +1647+09610 Asia/Rangoon  
MN +4755+10653 Asia/Ulaanbaatar most  
locations  
MN +4801+09139 Asia/Hovd Bayan-Olgii, Govi-Altai, Hovd, Uvs, Zavkhan  
MN +4804+11430 Asia/Choibalsan Dornod, Sukhbaatar  
MO +2214+11335 Asia/Macau  
MP +1512+14545 Pacific/Saipan  
MQ +1436-06105 America/Martinique  
MR +1806-01557 Africa/Nouakchott  
MS +1643-06213 America/Montserrat  
MT +3554+01431 Europe/Malta  
MU -2010+05730 Indian/Mauritius  
MV +0410+07330 Indian/Maldives  
MW -1547+03500 Africa/Blantyre  
MX +1924-09909 America/Mexico\_City Central Time - most locations  
MX +2105-08646 America/Cancun Central Time - Quintana Roo  
MX +2058-08937 America/Merida Central Time - Campeche, Yucatan  
MX +2540-10019 America/Monterrey Mexican Central Time - Coahuila, Durango, Nuevo Leon, Tamaulipas away  
from US border  
MX +2550-09730 America/Matamoros US Central Time - Coahuila, Durango, Nuevo Leon, Tamaulipas near US  
border  
MX +2313-10625 America/Mazatlan Mountain Time - S Baja, Nayarit, Sinaloa  
MX +2838-10605 America/Chihuahua Mexican Mountain Time - Chihuahua  
away from US border  
MX +2934-10425 America/Ojinaga US Mountain Time - Chihuahua near US border  
MX +2904-11058 America/Hermosillo Mountain Standard Time - Sonora  
MX +3232-11701 America/Tijuana US Pacific Time - Baja California near US border  
MX +3018-11452 America/Santa\_Isabel Mexican Pacific Time - Baja California away from US border  
MX +2048-10515 America/Bahia\_Banderas Mexican Central Time - Bahia de Banderas  
MY +0310+10142 Asia/Kuala\_Lumpur peninsular Malaysia  
MY +0133+11020 Asia/Kuching Sabah & Sarawak  
MZ -2558+03235 Africa/Maputo  
NA -2234+01706 Africa/Windhoek  
NC -2216+16627 Pacific/Noumea  
NE +1331+00207 Africa/Niamey  
NF -2903+16758 Pacific/Norfolk  
NG +0627+00324 Africa/Lagos  
NI +1209-08617 America/Managua  
NL +5222+00454 Europe/Amsterdam  
NO +5955+01045 Europe/Oslo

NP +2743+08519 Asia/Kathmandu  
NR -0031+16655 Pacific/Nauru  
NU -1901-16955 Pacific/Niue  
NZ -3652+17446 Pacific/Auckland most locations  
NZ -4357-17633 Pacific/Chatham Chatham Islands  
OM +2336+05835 Asia/Muscat  
PA +0858-07932 America/Panama  
PE -1203-07703 America/Lima  
PF -1732-14934 Pacific/Tahiti Society  
Islands  
PF -0900-13930 Pacific/Marquesas Marquesas Islands  
PF -2308-13457 Pacific/Gambier Gambier Islands  
PG -0930+14710 Pacific/Port\_Moresby  
PH +1435+12100 Asia/Manila  
PK +2452+06703 Asia/Karachi  
PL +5215+02100 Europe/Warsaw  
PM +4703-05620 America/Miquelon  
PN -2504-13005 Pacific/Pitcairn  
PR +182806-0660622 America/Puerto\_Rico  
PS +3130+03428 Asia/Gaza Gaza Strip  
PS +313200+0350542 Asia/Hebron West Bank  
PT +3843-00908 Europe/Lisbon mainland  
PT +3238-01654 Atlantic/Madeira Madeira Islands  
PT +3744-02540 Atlantic/Azores Azores  
PW +0720+13429 Pacific/Palau  
PY -2516-05740 America/Asuncion  
QA +2517+05132 Asia/Qatar  
RE -2052+05528 Indian/Reunion  
RO +4426+02606 Europe/Bucharest  
RS +4450+02030 Europe/Belgrade  
RU +5443+02030 Europe/Kaliningrad Moscow-01 - Kaliningrad  
RU +5545+03735 Europe/Moscow Moscow+00 - west Russia  
RU +4844+04425 Europe/Volgograd Moscow+00 - Caspian Sea  
RU +5312+05009 Europe/Samara Moscow+00  
- Samara, Udmurtia  
RU +5651+06036 Asia/Yekaterinburg Moscow+02 - Urals  
RU +5500+07324 Asia/Omsk Moscow+03 - west Siberia  
RU +5502+08255 Asia/Novosibirsk Moscow+03 - Novosibirsk  
RU +5345+08707 Asia/Novokuznetsk Moscow+03 - Novokuznetsk  
RU +5601+09250 Asia/Krasnoyarsk Moscow+04 - Yenisei River  
RU +5216+10420 Asia/Irkutsk Moscow+05 - Lake Baikal  
RU +6200+12940 Asia/Yakutsk Moscow+06 - Lena River  
RU +623923+1353314 Asia/Khandyga Moscow+06 - Tomponsky, Ust-Maysky  
RU +4310+13156 Asia/Vladivostok Moscow+07 - Amur River  
RU +4658+14242 Asia/Sakhalin Moscow+07 - Sakhalin Island  
RU +643337+1431336 Asia/Ust-Nera Moscow+07 - Oymyakonsky  
RU +5934+15048 Asia/Magadan Moscow+08 - Magadan  
RU +5301+15839 Asia/Kamchatka Moscow+08 - Kamchatka

RU +6445+17729 Asia/Anadyr Moscow+08 - Bering Sea  
RW -0157+03004 Africa/Kigali  
SA +2438+04643 Asia/Riyadh  
SB -0932+16012 Pacific/Guadalcanal  
SC -0440+05528 Indian/Mahe  
SD +1536+03232 Africa/Khartoum  
SE +5920+01803 Europe/Stockholm  
SG +0117+10351 Asia/Singapore  
SH -1555-00542 Atlantic/St\_Helena  
SI +4603+01431 Europe/Ljubljana  
SJ +7800+01600 Arctic/Longyearbyen  
SK +4809+01707 Europe/Bratislava  
SL +0830-01315 Africa/Freetown  
SM +4355+01228 Europe/San\_Marino  
SN +1440-01726 Africa/Dakar  
SO +0204+04522 Africa/Mogadishu  
SR +0550-05510 America/Paramaribo  
SS +0451+03136 Africa/Juba  
ST +0020+00644 Africa/Sao\_Tome  
SV +1342-08912 America/El\_Salvador  
SX +180305-0630250 America/Lower\_Princes  
SY +3330+03618 Asia/Damascus  
SZ -2618+03106 Africa/Mbabane  
TC +2128-07108 America/Grand\_Turk  
TD +1207+01503 Africa/Ndjamena  
TF -492110+0701303 Indian/Kerguelen  
TG +0608+00113 Africa/Lome  
TH +1345+10031 Asia/Bangkok  
TJ +3835+06848 Asia/Dushanbe  
TK -0922-17114 Pacific/Fakaofu  
TL -0833+12535 Asia/Dili  
TM +3757+05823 Asia/Ashgabat  
TN +3648+01011 Africa/Tunis  
TO -2110-17510 Pacific/Tongatapu  
TR +4101+02858 Europe/Istanbul  
TT +1039-06131 America/Port\_of\_Spain  
TV -0831+17913 Pacific/Funafuti  
TW +2503+12130 Asia/Taipei  
TZ -0648+03917 Africa/Dar\_es\_Salaam  
UA +5026+03031 Europe/Kiev most  
locations  
UA +4837+02218 Europe/Uzhgorod Ruthenia  
UA +4750+03510 Europe/Zaporozhye Zaporozh'ye, E Lugansk / Zaporizhia, E Luhansk  
UA +4457+03406 Europe/Simferopol central Crimea  
UG +0019+03225 Africa/Kampala  
UM +1645-16931 Pacific/Johnston Johnston Atoll  
UM +2813-17722 Pacific/Midway Midway Islands  
UM +1917+16637 Pacific/Wake Wake Island

US +404251-0740023 America/New\_York Eastern Time  
US +421953-0830245 America/Detroit Eastern Time - Michigan - most locations  
US +381515-0854534 America/Kentucky/Louisville Eastern Time - Kentucky - Louisville area  
US +364947-0845057 America/Kentucky/Monticello Eastern Time - Kentucky - Wayne County  
US +394606-0860929 America/Indiana/Indianapolis Eastern Time - Indiana - most locations  
US +384038-0873143 America/Indiana/Vincennes Eastern Time - Indiana - Daviess, Dubois, Knox & Martin  
Counties  
US +410305-0863611 America/Indiana/Winamac Eastern Time - Indiana - Pulaski County  
US +382232-0862041 America/Indiana/Marengo Eastern Time - Indiana - Crawford  
County  
US +382931-0871643 America/Indiana/Petersburg Eastern Time - Indiana - Pike County  
US +384452-0850402 America/Indiana/Vevay Eastern Time - Indiana - Switzerland County  
US +415100-0873900 America/Chicago Central Time  
US +375711-0864541 America/Indiana/Tell\_City Central Time - Indiana - Perry County  
US +411745-0863730 America/Indiana/Knox Central Time - Indiana - Starke County  
US +450628-0873651 America/Menominee Central Time - Michigan - Dickinson, Gogebic, Iron & Menominee  
Counties  
US +470659-1011757 America/North\_Dakota/Center Central Time - North Dakota - Oliver County  
US +465042-1012439 America/North\_Dakota/New\_Salem Central Time - North Dakota - Morton County (except  
Mandan area)  
US +471551-1014640 America/North\_Dakota/Beulah Central Time - North Dakota - Mercer County  
US +394421-1045903 America/Denver Mountain Time  
US +433649-1161209 America/Boise Mountain Time - south Idaho & east Oregon  
US +364708-1084111 America/Shiprock Mountain Time - Navajo  
US +332654-1120424 America/Phoenix Mountain  
Standard Time - Arizona  
US +340308-1181434 America/Los\_Angeles Pacific Time  
US +611305-1495401 America/Anchorage Alaska Time  
US +581807-1342511 America/Juneau Alaska Time - Alaska panhandle  
US +571035-1351807 America/Sitka Alaska Time - southeast Alaska panhandle  
US +593249-1394338 America/Yakutat Alaska Time - Alaska panhandle neck  
US +643004-1652423 America/Nome Alaska Time - west Alaska  
US +515248-1763929 America/Adak Aleutian Islands  
US +550737-1313435 America/Metlakatla Metlakatla Time - Annette Island  
US +211825-1575130 Pacific/Honolulu Hawaii  
UY -3453-05611 America/Montevideo  
UZ +3940+06648 Asia/Samarkand west Uzbekistan  
UZ +4120+06918 Asia/Tashkent east Uzbekistan  
VA +415408+0122711 Europe/Vatican  
VC +1309-06114 America/St\_Vincent  
VE +1030-06656 America/Caracas  
VG +1827-06437 America/Tortola  
VI +1821-06456 America/St\_Thomas  
VN +1045+10640 Asia/Ho\_Chi\_Minh  
VU -1740+16825 Pacific/Efate  
WF -1318-17610 Pacific/Wallis  
WS -1350-17144 Pacific/Apia  
YE +1245+04512 Asia/Aden



YT -1247+04514 Indian/Mayotte  
ZA -2615+02800 Africa/Johannesburg  
ZM -1525+02817 Africa/Lusaka  
ZW -1750+03103 Africa/Harare

Found

in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/zone.tab

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Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/sun/util/calendar/CalendarUtils.java

No license file was found, but licenses were detected in source scan.

# Public Domain Korn Shell <<http://www.cs.mun.ca/~michael/pdksh/>>

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/tzselect.ksh

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Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata.spec
```

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```
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# Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA.
#
# Please contact Sun Microsystems, Inc., 4150 Network Circle, Santa Clara,
# CA 95054 USA or visit www.sun.com if you need additional information or
# have any questions.
#
# JDK 1.1.x compatible time zone IDs
#
```

Link Australia/Darwin ACT

Link Australia/Sydney AET

Link America/Argentina/Buenos\_Aires AGT

Link Africa/Cairo ART

Link America/Anchorage AST

Link America/Sao\_Paulo BET

Link Asia/Dhaka BST

Link Africa/Harare CAT

Link America/St\_Johns CNT

Link America/Chicago CST

Link Asia/Shanghai CTT  
Link Africa/Addis\_Ababa EAT  
Link Europe/Paris ECT  
Link America/New\_York EST  
Link Pacific/Honolulu HST  
Link America/Indiana/Indianapolis IET  
Link Asia/Calcutta IST  
Link Asia/Tokyo JST  
Link Pacific/Apia MIT  
Link America/Denver MST  
Link Asia/Yerevan NET  
Link Pacific/Auckland NST  
Link Asia/Karachi PLT  
Link America/Phoenix PNT  
Link America/Puerto\_Rico PRT  
Link America/Los\_Angeles PST  
Link Pacific/Guadalcanal SST  
Link Asia/Saigon  
VST

# The follwong link is required to generate J2SE 1.2.x and 1.3.x  
# compatible zones. In the Olson public source, MET is defined as  
# GMT+1:00 with the C-Eur rules. In J2SE, MET is defined as an alias  
# of Asia/Tehran. This line must be removed if a full set of Olson  
# zones is generated. Otherwise, MET appears twice in the  
# ZoneInfoMappings.IDs table.  
Link Asia/Tehran MET

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule SystemV min 1973 - Apr lastSun 2:00 1:00 D  
Rule SystemV min 1973 - Oct lastSun 2:00 0 S  
Rule SystemV 1974 only - Jan 6 2:00 1:00 D  
Rule SystemV 1974 only - Nov lastSun 2:00 0 S  
Rule SystemV 1975 only - Feb 23 2:00 1:00 D  
Rule SystemV 1975 only - Oct lastSun 2:00 0 S  
Rule SystemV 1976 max - Apr lastSun 2:00 1:00 D  
Rule SystemV 1976 max - Oct lastSun 2:00 0 S

# Zone NAME GMTOFF RULES/SAVE FORMAT [UNTIL]  
Zone SystemV/AST4ADT -4:00 SystemV A%sT  
Zone SystemV/EST5EDT -5:00 SystemV E%sT  
Zone SystemV/CST6CDT -6:00 SystemV C%sT  
Zone SystemV/MST7MDT -7:00 SystemV M%sT  
Zone SystemV/PST8PDT -8:00 SystemV P%sT  
Zone SystemV/YST9YDT -9:00 SystemV Y%sT  
Zone SystemV/AST4 -4:00 - AST  
Zone SystemV/EST5 -5:00 - EST  
Zone SystemV/CST6 -6:00 - CST

Zone SystemV/MST7 -7:00 - MST  
Zone SystemV/PST8 -8:00 - PST  
Zone SystemV/YST9 -9:00 - YST  
Zone SystemV/HST10 -10:00 - HST

#

#

For the UTC change in Mustang

#

Link GMT UTC

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/tzdata\_jdk/jdk11\_full\_backward

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README for the tz distribution

This file is in the public domain, so clarified as of  
2009-05-17 by Arthur David Olson.

"What time is it?" -- Richard Deacon as The King

"Any time you want it to be." -- Frank Baxter as The Scientist

(from the Bell System film "About Time")

The 1989 update of the time zone package featured

- \* POSIXization (including interpretation of POSIX-style TZ environment variables, provided by Guy Harris),
- \* ANSIfication (including versions of "mktime" and "difftime"),
- \* SVIDulation (an "altzone" variable)
- \* MACHination (the "gtime" function)
- \* corrections to some time zone data (including corrections to the rules for Great Britain and New Zealand)
- \* reference data from the United States Naval Observatory for folks who want to do additional time zones
- \* and the 1989 data for Saudi Arabia.

(Since this code will be treated as "part of the implementation" in some places and as "part of the application" in others, there's no good way to name functions, such as timegm, that are not part of the proposed ANSI C standard; such functions have kept their old, underscore-free names in this update.)

And the "dysize" function has disappeared; it was present to allow compilation of the "date" command on old BSD systems, and a version of "date" is now provided in the package. The "date" command is not created when you "make all" since it may lack options provided by the version distributed with your

operating system, or may not interact with the system in the same way the native version does.

Since POSIX frowns on correct leap second handling, the default behavior of the "zic" command (in the absence of a "-L" option) has been changed to omit leap second information from its output files.

Here is a recipe for acquiring, building, installing, and testing the tz distribution on a GNU/Linux or similar host.

```
mkdir tz
cd tz
wget --retr-symlinks 'ftp://ftp.iana.org/tz/tz*-latest.tar.gz'
gzip
-dc tzcode-latest.tar.gz | tar -xf -
gzip -dc tzdata-latest.tar.gz | tar -xf -
```

Be sure to read the comments in "Makefile" and make any changes needed to make things right for your system, especially if you are using some platform other than GNU/Linux. Then run the following commands, substituting your desired installation directory for "\$HOME/tzdir":

```
make TOPDIR=$HOME/tzdir install
$HOME/tzdir/etc/zdump -v America/Los_Angeles
```

To use the new functions, use a "-ltz" option when compiling or linking.

Historical local time information has been included here to:

- \* provide a compendium of data about the history of civil time that is useful even if the data are not 100% accurate;
- \* give an idea of the variety of local time rules that have existed in the past and thus an idea of the variety that may be expected in the future;
- \* provide a test of the generality of the local time rule description system.

The information in the time zone data files is by no means authoritative; the files currently do not even attempt to cover all time stamps before 1970, and there are undoubtedly errors even for time stamps since 1970. If you know that the rules are different from those in a file, by all means feel free to change file (and please send the changed version to tz@iana.org for use in the future). Europeans take note!

Thanks to these Timezone Caballeros who've made major contributions to the

time conversion package: Keith Bostic; Bob Devine; Paul Eggert; Robert Elz; Guy Harris; Mark Horton; John Mackin; and Bradley White. Thanks also to Michael Bloom, Art Neilson, Stephen Prince, John Sovereign, and Frank Wales for testing work, and to Gwillim Law for checking local mean time data. None of them are responsible for remaining errors.

Look in `<ftp://ftp.iana.org/tz/releases/>`  
for updated versions of these files.

Please send comments or information to `tz@iana.org`.

Postscript: The README above is largely unmodified (aside from details of mailing list and ftp archive addresses) from that prepared many years ago by Arthur David Olson, to whom the timezone community owes the greatest debt of all. Arthur is not currently maintaining this data or code (though he remains involved).

Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/README
No license file was found, but licenses were detected in source scan.
```

This file is in the public domain, so clarified as of

Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/tz-art.htm
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```

```
# <pre>
```

```
# This file is in the public domain, so clarified as of
# 2009-05-17 by Arthur David Olson.
```

```
# Apparent noon times below are for Riyadh; they're a bit off for other places.
# Times were computed using formulas in the U.S. Naval Observatory's
# Almanac for Computers 1988; the formulas "will give EqT to an accuracy of
# [plus or minus two] seconds during the current year."
#
# Rounding to the nearest five seconds results in fewer than
# 256 different "time types"--a limit that's faced because time types are
# stored on disk as unsigned chars.
```

```
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
```

```
Rule sol88 1988 only - Jan 1 12:03:15s -0:03:15 -
```

```
Rule sol88 1988 only - Jan 2 12:03:40s -0:03:40 -
```

```
Rule sol88 1988 only - Jan 3 12:04:10s -0:04:10 -
```

```
Rule sol88 1988 only - Jan 4 12:04:40s -0:04:40 -
```

Rule sol88 1988 only - Jan 5 12:05:05s -0:05:05 -  
Rule sol88 1988 only - Jan 6 12:05:30s -0:05:30 -  
Rule sol88 1988 only - Jan 7 12:06:00s  
-0:06:00 -  
Rule sol88 1988 only - Jan 8 12:06:25s -0:06:25 -  
Rule sol88 1988 only - Jan 9 12:06:50s -0:06:50 -  
Rule sol88 1988 only - Jan 10 12:07:15s -0:07:15 -  
Rule sol88 1988 only - Jan 11 12:07:40s -0:07:40 -  
Rule sol88 1988 only - Jan 12 12:08:05s -0:08:05 -  
Rule sol88 1988 only - Jan 13 12:08:25s -0:08:25 -  
Rule sol88 1988 only - Jan 14 12:08:50s -0:08:50 -  
Rule sol88 1988 only - Jan 15 12:09:10s -0:09:10 -  
Rule sol88 1988 only - Jan 16 12:09:30s -0:09:30 -  
Rule sol88 1988 only - Jan 17 12:09:50s -0:09:50 -  
Rule sol88 1988 only - Jan 18 12:10:10s -0:10:10 -  
Rule sol88 1988 only - Jan 19 12:10:30s -0:10:30 -  
Rule sol88 1988 only - Jan 20 12:10:50s -0:10:50 -  
Rule sol88 1988 only - Jan 21 12:11:05s -0:11:05 -  
Rule sol88 1988 only - Jan 22 12:11:25s -0:11:25 -  
Rule sol88 1988 only - Jan 23 12:11:40s -0:11:40 -  
Rule sol88 1988 only - Jan 24 12:11:55s -0:11:55 -  
Rule sol88 1988 only - Jan 25 12:12:10s -0:12:10 -  
Rule sol88 1988 only - Jan 26 12:12:25s -0:12:25 -  
Rule sol88 1988 only - Jan 27 12:12:40s  
-0:12:40 -  
Rule sol88 1988 only - Jan 28 12:12:50s -0:12:50 -  
Rule sol88 1988 only - Jan 29 12:13:00s -0:13:00 -  
Rule sol88 1988 only - Jan 30 12:13:10s -0:13:10 -  
Rule sol88 1988 only - Jan 31 12:13:20s -0:13:20 -  
Rule sol88 1988 only - Feb 1 12:13:30s -0:13:30 -  
Rule sol88 1988 only - Feb 2 12:13:40s -0:13:40 -  
Rule sol88 1988 only - Feb 3 12:13:45s -0:13:45 -  
Rule sol88 1988 only - Feb 4 12:13:55s -0:13:55 -  
Rule sol88 1988 only - Feb 5 12:14:00s -0:14:00 -  
Rule sol88 1988 only - Feb 6 12:14:05s -0:14:05 -  
Rule sol88 1988 only - Feb 7 12:14:10s -0:14:10 -  
Rule sol88 1988 only - Feb 8 12:14:10s -0:14:10 -  
Rule sol88 1988 only - Feb 9 12:14:15s -0:14:15 -  
Rule sol88 1988 only - Feb 10 12:14:15s -0:14:15 -  
Rule sol88 1988 only - Feb 11 12:14:15s -0:14:15 -  
Rule sol88 1988 only - Feb 12 12:14:15s -0:14:15 -  
Rule sol88 1988 only - Feb 13 12:14:15s -0:14:15 -  
Rule sol88 1988 only - Feb 14 12:14:15s -0:14:15 -  
Rule sol88 1988 only - Feb 15 12:14:10s -0:14:10  
-  
Rule sol88 1988 only - Feb 16 12:14:10s -0:14:10 -  
Rule sol88 1988 only - Feb 17 12:14:05s -0:14:05 -  
Rule sol88 1988 only - Feb 18 12:14:00s -0:14:00 -

Rule sol88 1988 only - Feb 19 12:13:55s -0:13:55 -  
Rule sol88 1988 only - Feb 20 12:13:50s -0:13:50 -  
Rule sol88 1988 only - Feb 21 12:13:45s -0:13:45 -  
Rule sol88 1988 only - Feb 22 12:13:40s -0:13:40 -  
Rule sol88 1988 only - Feb 23 12:13:30s -0:13:30 -  
Rule sol88 1988 only - Feb 24 12:13:20s -0:13:20 -  
Rule sol88 1988 only - Feb 25 12:13:15s -0:13:15 -  
Rule sol88 1988 only - Feb 26 12:13:05s -0:13:05 -  
Rule sol88 1988 only - Feb 27 12:12:55s -0:12:55 -  
Rule sol88 1988 only - Feb 28 12:12:45s -0:12:45 -  
Rule sol88 1988 only - Feb 29 12:12:30s -0:12:30 -  
Rule sol88 1988 only - Mar 1 12:12:20s -0:12:20 -  
Rule sol88 1988 only - Mar 2 12:12:10s -0:12:10 -  
Rule sol88 1988 only - Mar 3 12:11:55s -0:11:55 -  
Rule sol88 1988 only - Mar 4 12:11:45s -0:11:45 -  
Rule sol88 1988 only - Mar 5 12:11:30s -0:11:30 -  
Rule sol88 1988 only - Mar 6 12:11:15s  
-0:11:15 -  
Rule sol88 1988 only - Mar 7 12:11:00s -0:11:00 -  
Rule sol88 1988 only - Mar 8 12:10:45s -0:10:45 -  
Rule sol88 1988 only - Mar 9 12:10:30s -0:10:30 -  
Rule sol88 1988 only - Mar 10 12:10:15s -0:10:15 -  
Rule sol88 1988 only - Mar 11 12:10:00s -0:10:00 -  
Rule sol88 1988 only - Mar 12 12:09:45s -0:09:45 -  
Rule sol88 1988 only - Mar 13 12:09:30s -0:09:30 -  
Rule sol88 1988 only - Mar 14 12:09:10s -0:09:10 -  
Rule sol88 1988 only - Mar 15 12:08:55s -0:08:55 -  
Rule sol88 1988 only - Mar 16 12:08:40s -0:08:40 -  
Rule sol88 1988 only - Mar 17 12:08:20s -0:08:20 -  
Rule sol88 1988 only - Mar 18 12:08:05s -0:08:05 -  
Rule sol88 1988 only - Mar 19 12:07:45s -0:07:45 -  
Rule sol88 1988 only - Mar 20 12:07:30s -0:07:30 -  
Rule sol88 1988 only - Mar 21 12:07:10s -0:07:10 -  
Rule sol88 1988 only - Mar 22 12:06:50s -0:06:50 -  
Rule sol88 1988 only - Mar 23 12:06:35s -0:06:35 -  
Rule sol88 1988 only - Mar 24 12:06:15s -0:06:15 -  
Rule sol88 1988 only - Mar 25 12:06:00s -0:06:00 -  
Rule sol88 1988 only - Mar 26 12:05:40s  
-0:05:40 -  
Rule sol88 1988 only - Mar 27 12:05:20s -0:05:20 -  
Rule sol88 1988 only - Mar 28 12:05:05s -0:05:05 -  
Rule sol88 1988 only - Mar 29 12:04:45s -0:04:45 -  
Rule sol88 1988 only - Mar 30 12:04:25s -0:04:25 -  
Rule sol88 1988 only - Mar 31 12:04:10s -0:04:10 -  
Rule sol88 1988 only - Apr 1 12:03:50s -0:03:50 -  
Rule sol88 1988 only - Apr 2 12:03:35s -0:03:35 -  
Rule sol88 1988 only - Apr 3 12:03:15s -0:03:15 -  
Rule sol88 1988 only - Apr 4 12:03:00s -0:03:00 -



Rule sol88 1988 only - Apr 5 12:02:40s -0:02:40 -  
Rule sol88 1988 only - Apr 6 12:02:25s -0:02:25 -  
Rule sol88 1988 only - Apr 7 12:02:05s -0:02:05 -  
Rule sol88 1988 only - Apr 8 12:01:50s -0:01:50 -  
Rule sol88 1988 only - Apr 9 12:01:35s -0:01:35 -  
Rule sol88 1988 only - Apr 10 12:01:15s -0:01:15 -  
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# Riyadh is at about 46 degrees 46 minutes East: 3 hrs, 7 mins, 4 secs

# Before and after 1988, we'll operate on local mean solar time.

# Zone NAME GMTOFF RULES/SAVE FORMAT [UNTIL]

Zone Asia/Riyadh88 3:07:04 - zzz 1988

3:07:04 sol88 zzz 1989

3:07:04 - zzz

# For backward compatibility...

Link Asia/Riyadh88 Mideast/Riyadh88

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/solar88

No license file was found, but licenses were detected in source scan.

From d3b025adb25554ee10b986850371e573df92733e Mon Sep 17 00:00:00 2001

From: Paul Eggert <eggert@cs.ucla.edu>

Date: Mon, 27 May 2013 18:08:26 -0700

Subject: [PATCH] Adjust commentary to try to defuse recent issues somewhat.

This change stemmed from a long discussion on the tz mailing list about what country the Jerusalem zone entry is in. The idea of this change is to deemphasize the role of countries in the tz database, to lessen the amount of controversy in the future.

Due to backward compatibility concerns this change does not eliminate the role of countries entirely. With one minor exception this change does not alter any code or data, just comments.

\* Theory, zone.tab: Deemphasize the role of countries in choosing location names, as they tend to introduce political conflict during maintenance, and country information isn't needed for typical uses of the database.

\* Theory: Say that names should differ in more than just case, and why; and explain why 'backward' means old names will continue to work. (thanks to Norbert Lindenberg for spotting these issues).

Update citation date and URL.

\* iso3166.tab: Mention latest maintenance update.

Update citation URL. Add missing comma for BQ.

Be more consistent about abbreviating Sint like Saint.

Mention SX "Dutch part" for consistency with MF "French part".

\* iso3166.tab, zone.tab: Add legal/territorial disclaimer.

\* zone.tab: Say that country/zone overlaps can occur in both directions, and that column 2 need not lie within column 1.

(Asia/Jerusalem): Change the coordinates from a sloppy value, taken from an old astrology book, to a more-precise value, the site of city hall. The sloppy value sparked some controversy and the hope is that the more-precise value will be a bit less controversial.

---

Theory | 27 ++++++-----  
iso3166.tab | 21 ++++++-----  
zone.tab | 17 ++++++-----  
3 files changed, 36 insertions(+),  
29 deletions(-)

diff --git a/Theory b/Theory  
index b00a492..751b12d 100644

--- a/Theory

+++ b/Theory

@@ -264,12 +264,12 @@ in decreasing order of importance:

TZ strings. A file name component must not exceed 14  
characters or start with `-'`. E.g., prefer `Brunei'  
to `Bandar\_Seri\_Begawan'.

- Include at least one location per time zone rule set per country.
- One such location is enough. Use ISO 3166 (see the file  
- iso3166.tab) to help decide whether something is a country.
- However, uninhabited ISO 3166 regions like Bouvet Island
- + Do not use names that differ only in case. Although the reference  
+ implementation is case-sensitive, some other implementations  
+ are not, and they would mishandle names differing only in case.
- + Uninhabited regions like the North Pole and Bouvet Island  
do not need locations, since local time is not defined there.
- If all the clocks in a country's region have agreed since 1970,
- + If all the clocks in a region have agreed  
since 1970,  
don't bother to include more than one location  
even if subregions' clocks disagreed before 1970.

Otherwise these tables would become annoyingly large.

@@ -283,7 +283,7 @@ in decreasing order of importance:

Use mainstream English spelling, e.g. prefer `Rome' to `Roma', and  
prefer `Athens' to the true name (which uses Greek letters).

The POSIX file name restrictions encourage this rule.

- Use the most populous among locations in a country's time zone,
- + Use the most populous among locations in a zone,  
e.g. prefer `Shanghai' to `Beijing'. Among locations with  
similar populations, pick the best-known location,  
e.g. prefer `Rome' to `Milan'.

@@ -302,10 +302,11 @@ in decreasing order of importance:

Milan's population has grown to be somewhat greater  
than Rome's.

If a name is changed, put its old spelling in the `backward' file.

- + This means old spellings will continue to work.

The file `zone.tab' lists the geographical locations used to name  
time zone rule files. It is intended to be an exhaustive list

-of canonical names for geographic regions.

+of names for geographic regions as described above.



Older versions of this package used a different naming scheme, and these older names are still supported.

@@ -359,14 +360,13 @@ in decreasing order of importance:

If this is not available or is a phrase mentioning the country (e.g. ``Cape Verde Time"), then:

- When a country has a single or principal time zone region,
- + When a country is identified with a single or principal zone, append `T' to the country's ISO code, e.g. `CVT' for Cape Verde Time. For summer time append `ST'; for double summer time append `DST'; etc.
- When a country has multiple time zones, take the first three
- letters of an English place name identifying each zone
- and then append `T', `ST', etc. as before;
- e.g. `VLAST' for VLADivostok Summer Time.
- + Otherwise, take the first three letters of an English place
- + name
- identifying each zone and append `T', `ST', etc.
- + as before; e.g. `VLAST' for VLADivostok Summer Time.

Use UTC (with time zone abbreviation "zzz") for locations while uninhabited. The "zzz" mnemonic is that these locations are,

@@ -587,7 +587,8 @@ Sources:

Michael Allison and Robert Schmunk,

"Technical Notes on Mars Solar Time as Adopted by the Mars24 Sunclock"

-<<http://www.giss.nasa.gov/tools/mars24/help/notes.html>> (2004-07-30).

+<<http://www.giss.nasa.gov/tools/mars24/help/notes.html>> (2012-08-08).

Jia-Rui Chong, "Workdays Fit for a Martian", Los Angeles Times

+<<http://articles.latimes.com/2004/jan/14/science/sci-marstime14>>

(2004-01-14), pp A1, A20-A21.

diff --git a/iso3166.tab b/iso3166.tab

index b952ca1..c184a81 100644

--- a/iso3166.tab

+++ b/iso3166.tab

@@ -1,16 +1,14 @@

## <pre>

## ISO 3166 alpha-2 country codes

##

## This file is in the public domain, so clarified as of

## 2009-05-17 by Arthur David Olson.

## ISO 3166 alpha-2 country codes

##

## From Paul

Eggert (2006-09-27):

## From Paul Eggert (2013-05-27):

```

#
# This file contains a table with the following columns:
# 1. ISO 3166-1 alpha-2 country code, current as of
-# ISO 3166-1 Newsletter VI-1 (2007-09-21). See:
-# <a href="http://www.iso.org/iso/en/prods-services/iso3166ma/index.html">
-# ISO 3166 Maintenance agency (ISO 3166/MA)
-# </a>.
+# ISO 3166-1 Newsletter VI-15 (2013-05-10). See: Updates on ISO 3166
+# http://www.iso.org/iso/home/standards/country_codes/updates_on_iso_3166.htm
# 2. The usual English name for the country,
# chosen so that alphabetic sorting of subsets produces helpful lists.
# This is not the same as the English name in the ISO 3166 tables.
@@ -20,8 +18,9 @@
#
# Lines beginning with `#' are comments.
#
-# From Arthur David Olson (2011-08-17):
-# Resynchronized today with the ISO 3166 site (adding SS for South Sudan).
+# This table is intended as an aid for users, to help them select time
+# zone data appropriate
for their practical needs. It is not intended
+# to take or endorse any position on legal or territorial claims.
#
#country-
#code country name
@@ -54,7 +53,7 @@ BL St Barthelemy
BM Bermuda
BN Brunei
BO Bolivia
-BQ Bonaire Sint Eustatius & Saba
+BQ Bonaire, St Eustatius & Saba
BR Brazil
BS Bahamas
BT Bhutan
@@ -235,7 +234,7 @@ SR Suriname
SS South Sudan
ST Sao Tome & Principe
SV El Salvador
-SX Sint Maarten
+SX St Maarten (Dutch part)
SY Syria
SZ Swaziland
TC Turks & Caicos Is
diff --git a/zone.tab b/zone.tab
index 6b98520..3ec24a7 100644
--- a/zone.tab
+++ b/zone.tab
@@ -1,18 +1,21 @@

```

```

-# <pre>
+# TZ zone descriptions
+#
# This file is in the public domain, so clarified as of
# 2009-05-17 by Arthur David Olson.
#
-# TZ zone descriptions
-#
-# From Paul Eggert (1996-08-05):
+# From Paul Eggert (2013-05-27):
#
# This file contains a table with the following columns:
# 1. ISO 3166 2-character country code. See the file `iso3166.tab'.
+# This identifies a country
that overlaps the zone. The country may
+# overlap other zones and the zone may overlap other countries.
# 2. Latitude and longitude of the zone's principal location
# in ISO 6709 sign-degrees-minutes-seconds format,
# either +-DDMM+DDDMM or +-DDMMSS+DDMMSS,
# first latitude (+ is north), then longitude (+ is east).
+# This location need not lie within the column-1 country.
# 3. Zone name used in value of TZ environment variable.
+# Please see the 'Theory' file for how zone names are chosen.
# 4. Comments; present if and only if the country has multiple rows.
#
# Columns are separated by a single tab.
@@ -22,6 +25,10 @@
#
# Lines beginning with `#' are comments.
#
+# This table is intended as an aid for users, to help them select time
+# zone data appropriate for their practical needs. It is not intended
+# to take or endorse any position on legal or territorial claims.
+#
#country-
#code coordinates TZ comments
AD +4230+00131 Europe/Andorra
@@
-216,7 +223,7 @@ ID -0002+10920 Asia/Pontianak west & central Borneo
ID -0507+11924 Asia/Makassar east & south Borneo, Sulawesi (Celebes), Bali, Nusa Tenggara, west Timor
ID -0232+14042 Asia/Jayapura west New Guinea (Irian Jaya) & Maluku (Moluccas)
IE +5320-00615 Europe/Dublin
-IL +3146+03514 Asia/Jerusalem
+IL +314650+0351326 Asia/Jerusalem
IM +5409-00428 Europe/Isle_of_Man
IN +2232+08822 Asia/Kolkata
IO -0720+07225 Indian/Chagos
--

```

### 1.7.6.5

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/0001-Adjust-commentary-to-try-to-defuse-recent-issues-som.patch

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/\*

\*\* This file is in the public domain, so clarified as of

\*\* 1996-06-05 by Arthur David Olson.

\*/

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/private.h

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/difftime.c

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/asctime.c

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/localtime.c

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/tzfile.h

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\*/

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/RuleDay.java

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/Zone.java

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/Time.java

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/BackEnd.java

\*

/opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/RuleRec.java

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/ZoneRec.java

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/Mappings.java

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/Month.java

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/Timezone.java

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/Rule.java

\*

/opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/Main.java

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Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/Zoneinfo.java

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/util/calendar/ZoneInfoFile.java

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/Simple.java

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# <pre>

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# 2009-05-17 by Arthur David Olson.

# This data is by no means authoritative; if you think you know better,

# go ahead and edit the file (and please send any changes to

# [tz@iana.org](mailto:tz@iana.org) for general use in the future).

# From Paul Eggert (2013-02-21):

#

# A good source for time zone historical data outside the U.S. is

# Thomas G. Shanks and Rique Pottenger, The International Atlas (6th edition),

# San Diego: ACS Publications, Inc. (2003).

#

# Gwillim Law writes that a good source

# for recent time zone data is the International Air Transport

# Association's Standard Schedules Information Manual (IATA SSIM),

# published semiannually. Law sent in several helpful summaries

# of the IATA's data after 1990.

#

# Except where otherwise noted, Shanks & Pottenger is the source for

# entries through 1990, and IATA SSIM is the source for entries afterwards.

#

# Another

source occasionally used is Edward W. Whitman, World Time Differences,

# Whitman Publishing Co, 2 Niagara Av, Ealing, London (undated), which

# I found in the UCLA library.

#

# For data circa 1899, a common source is:

# Milne J. Civil time. Geogr J. 1899 Feb;13(2):173-94

# <<http://www.jstor.org/stable/1774359>>.

```

#
# A reliable and entertaining source about time zones is
# Derek Howse, Greenwich time and longitude, Philip Wilson Publishers (1997).
#
# Previous editions of this database used WAT, CAT, SAT, and EAT
# for +0:00 through +3:00, respectively,
# but Mark R V Murray reports that
# `SAST' is the official abbreviation for +2:00 in the country of South Africa,
# `CAT' is commonly used for +2:00 in countries north of South Africa, and
# `WAT' is probably the best name for +1:00, as the common phrase for
# the area that includes Nigeria is ``West Africa".
# He has heard of ``Western Sahara Time" for +0:00 but can find no reference.
#
# To make things confusing, `WAT' seems to have
# been used for -1:00 long ago;
# I'd guess that this was because people needed _some_ name for -1:00,
# and at the time, far west Africa was the only major land area in -1:00.
# This usage is now obsolete, as the last use of -1:00 on the African
# mainland seems to have been 1976 in Western Sahara.
#
# To summarize, the following abbreviations seem to have some currency:
# -1:00 WAT West Africa Time (no longer used)
# 0:00 GMT Greenwich Mean Time
# 2:00 CAT Central Africa Time
# 2:00 SAST South Africa Standard Time
# and Murray suggests the following abbreviation:
# 1:00 WAT West Africa Time
# I realize that this leads to `WAT' being used for both -1:00 and 1:00
# for times before 1976, but this is the best I can think of
# until we get more information.
#
# I invented the following abbreviations; corrections are welcome!
# 2:00 WAST West Africa Summer Time
# 2:30 BEAT British East Africa Time (no longer used)
# 2:45 BEAUT British East Africa Unified Time (no longer used)
#
# 3:00 CAST Central Africa Summer Time (no longer used)
# 3:00 SAST South Africa Summer Time (no longer used)
# 3:00 EAT East Africa Time
# 4:00 EAST East Africa Summer Time (no longer used)

# Algeria
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Algeria 1916 only - Jun 14 23:00s 1:00 S
Rule Algeria 1916 1919 - Oct Sun>=1 23:00s 0 -
Rule Algeria 1917 only - Mar 24 23:00s 1:00 S
Rule Algeria 1918 only - Mar 9 23:00s 1:00 S
Rule Algeria 1919 only - Mar 1 23:00s 1:00 S

```

Rule Algeria 1920 only - Feb 14 23:00s 1:00 S  
 Rule Algeria 1920 only - Oct 23 23:00s 0 -  
 Rule Algeria 1921 only - Mar 14 23:00s 1:00 S  
 Rule Algeria 1921 only - Jun 21 23:00s 0 -  
 Rule Algeria 1939 only - Sep 11 23:00s 1:00 S  
 Rule Algeria 1939 only - Nov 19 1:00 0 -  
 Rule Algeria 1944 1945 - Apr Mon>=1 2:00 1:00 S  
 Rule Algeria 1944 only - Oct 8 2:00 0 -  
 Rule Algeria 1945 only - Sep 16 1:00 0 -  
 Rule Algeria 1971 only - Apr 25 23:00s 1:00 S  
 Rule Algeria 1971 only - Sep 26 23:00s 0 -  
 Rule Algeria 1977 only - May  
 6 0:00 1:00 S  
 Rule Algeria 1977 only - Oct 21 0:00 0 -  
 Rule Algeria 1978 only - Mar 24 1:00 1:00 S  
 Rule Algeria 1978 only - Sep 22 3:00 0 -  
 Rule Algeria 1980 only - Apr 25 0:00 1:00 S  
 Rule Algeria 1980 only - Oct 31 2:00 0 -  
 # Shanks & Pottenger give 0:09:20 for Paris Mean Time; go with Howse's  
 # more precise 0:09:21.  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Africa/Algiers 0:12:12 - LMT 1891 Mar 15 0:01  
 0:09:21 - PMT 1911 Mar 11 # Paris Mean Time  
 0:00 Algeria WE%sT 1940 Feb 25 2:00  
 1:00 Algeria CE%sT 1946 Oct 7  
 0:00 - WET 1956 Jan 29  
 1:00 - CET 1963 Apr 14  
 0:00 Algeria WE%sT 1977 Oct 21  
 1:00 Algeria CE%sT 1979 Oct 26  
 0:00 Algeria WE%sT 1981 May  
 1:00 - CET  
  
 # Angola  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Africa/Luanda 0:52:56 - LMT 1892  
 0:52:04 - AOT 1911 May 26 # Angola Time  
 1:00 - WAT  
  
 # Benin  
 # Whitman says they switched to 1:00 in 1946, not 1934;  
 # go with Shanks & Pottenger.  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Africa/Porto-Novo 0:10:28 - LMT 1912  
 0:00 - GMT 1934  
 Feb 26  
 1:00 - WAT  
  
 # Botswana



# From Paul Eggert (2013-02-21):  
# Milne says they were regulated by the Cape Town Signal in 1899;  
# assume they switched to 2:00 when Cape Town did.  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Gaborone 1:43:40 - LMT 1885  
1:30 - SAST 1903 Mar  
2:00 - CAT 1943 Sep 19 2:00  
2:00 1:00 CAST 1944 Mar 19 2:00  
2:00 - CAT

# Burkina Faso  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Ouagadougou -0:06:04 - LMT 1912  
0:00 - GMT

# Burundi  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Bujumbura 1:57:28 - LMT 1890  
2:00 - CAT

# Cameroon  
# Whitman says they switched to 1:00 in 1920; go with Shanks & Pottenger.  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Douala 0:38:48 - LMT 1912  
1:00 - WAT

# Cape Verde  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Atlantic/Cape\_Verde -1:34:04 - LMT 1907 # Praia  
-2:00 - CVT 1942 Sep  
-2:00 1:00 CVST 1945 Oct 15  
-2:00 - CVT 1975  
Nov 25 2:00  
-1:00 - CVT

# Central African Republic  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Bangui 1:14:20 - LMT 1912  
1:00 - WAT

# Chad  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Ndjamena 1:00:12 - LMT 1912  
1:00 - WAT 1979 Oct 14  
1:00 1:00 WAST 1980 Mar 8  
1:00 - WAT

# Comoros

# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Indian/Comoro 2:53:04 - LMT 1911 Jul # Moroni, Gran Comoro  
3:00 - EAT

# Democratic Republic of Congo  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Kinshasa 1:01:12 - LMT 1897 Nov 9  
1:00 - WAT  
Zone Africa/Lubumbashi 1:49:52 - LMT 1897 Nov 9  
2:00 - CAT

# Republic of the Congo  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Brazzaville 1:01:08 - LMT 1912  
1:00 - WAT

# Cote D'Ivoire  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Abidjan -0:16:08 - LMT 1912  
0:00 - GMT

# Djibouti  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Djibouti 2:52:36 - LMT 1911 Jul  
3:00 - EAT

#####

#

Egypt

# Milne says Cairo used 2:05:08.9, the local mean time of the Abbasizeh  
# observatory; round to nearest. Milne also says that the official time for  
# Egypt was mean noon at the Great Pyramid, 2:04:30.5, but apparently this  
# did not apply to Cairo, Alexandria, or Port Said.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Egypt 1940 only - Jul 15 0:00 1:00 S  
Rule Egypt 1940 only - Oct 1 0:00 0 -  
Rule Egypt 1941 only - Apr 15 0:00 1:00 S  
Rule Egypt 1941 only - Sep 16 0:00 0 -  
Rule Egypt 1942 1944 - Apr 1 0:00 1:00 S  
Rule Egypt 1942 only - Oct 27 0:00 0 -  
Rule Egypt 1943 1945 - Nov 1 0:00 0 -  
Rule Egypt 1945 only - Apr 16 0:00 1:00 S  
Rule Egypt 1957 only - May 10 0:00 1:00 S  
Rule Egypt 1957 1958 - Oct 1 0:00 0 -  
Rule Egypt 1958 only - May 1 0:00 1:00 S

Rule Egypt 1959 1981 - May 1 1:00 1:00 S  
 Rule Egypt 1959 1965 - Sep 30 3:00 0 -  
 Rule Egypt 1966 1994 - Oct 1 3:00 0 -  
 Rule Egypt 1982 only - Jul 25 1:00 1:00 S  
 Rule Egypt 1983 only - Jul 12 1:00 1:00 S  
 Rule Egypt 1984 1988 - May  
 1 1:00 1:00 S  
 Rule Egypt 1989 only - May 6 1:00 1:00 S  
 Rule Egypt 1990 1994 - May 1 1:00 1:00 S  
 # IATA (after 1990) says transitions are at 0:00.  
 # Go with IATA starting in 1995, except correct 1995 entry from 09-30 to 09-29.

# From Alexander Krivenyshev (2011-04-20):  
 # "...Egypt's interim cabinet decided on Wednesday to cancel daylight  
 # saving time after a poll posted on its website showed the majority of  
 # Egyptians would approve the cancellation."  
 #  
 # Egypt to cancel daylight saving time  
 # <a href="http://www.almasryalyoum.com/en/node/407168">  
 # http://www.almasryalyoum.com/en/node/407168  
 # </a>  
 # or  
 # <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_egypt04.html">  
 # http://www.worldtimezone.com/dst\_news/dst\_news\_egypt04.html  
 # </a>

Rule Egypt 1995 2010 - Apr lastFri 0:00s 1:00 S  
 Rule Egypt 1995 2005 - Sep lastThu 23:00s 0 -  
 # From Steffen Thorsen (2006-09-19):  
 # The Egyptian Gazette, issue 41,090  
 (2006-09-18), page 1, reports:  
 # Egypt will turn back clocks by one hour at the midnight of Thursday  
 # after observing the daylight saving time since May.  
 # http://news.gom.com.eg/gazette/pdf/2006/09/18/01.pdf

Rule Egypt 2006 only - Sep 21 23:00s 0 -  
 # From Dirk Losch (2007-08-14):  
 # I received a mail from an airline which says that the daylight  
 # saving time in Egypt will end in the night of 2007-09-06 to 2007-09-07.  
 # From Jesper Norgaard Welen (2007-08-15): [The following agree:]  
 # http://www.nentjes.info/Bill/bill5.htm  
 # http://www.timeanddate.com/worldclock/city.html?n=53  
 # From Steffen Thorsen (2007-09-04): The official information...:  
 # http://www.sis.gov.eg/En/EgyptOnline/Miscellaneous/000002/0207000000000000001580.htm

Rule Egypt 2007 only - Sep Thu>=1 23:00s 0 -  
 # From Abdelrahman Hassan (2007-09-06):  
 # Due to the Hijri (lunar Islamic calendar) year being 11 days shorter  
 # than the year of the Gregorian calendar, Ramadan shifts earlier each  
 # year. This year it will be observed

```

September 13 (September is quite
# hot in Egypt), and the idea is to make fasting easier for workers by
# shifting business hours one hour out of daytime heat. Consequently,
# unless discontinued, next DST may end Thursday 28 August 2008.
# From Paul Eggert (2007-08-17):
# For lack of better info, assume the new rule is last Thursday in August.

# From Petr Machata (2009-04-06):
# The following appeared in Red Hat bugzilla[1] (edited):
#
# > $ zdump -v /usr/share/zoneinfo/Africa/Cairo | grep 2009
# > /usr/share/zoneinfo/Africa/Cairo Thu Apr 23 21:59:59 2009 UTC = Thu =
# Apr 23
# > 23:59:59 2009 EET isdst=0 gmtoff=7200
# > /usr/share/zoneinfo/Africa/Cairo Thu Apr 23 22:00:00 2009 UTC = Fri =
# Apr 24
# > 01:00:00 2009 EEST isdst=1 gmtoff=10800
# > /usr/share/zoneinfo/Africa/Cairo Thu Aug 27 20:59:59 2009 UTC = Thu =
# Aug 27
# > 23:59:59 2009 EEST isdst=1 gmtoff=10800
# > /usr/share/zoneinfo/Africa/Cairo Thu Aug 27 21:00:00 2009 UTC = Thu =
# Aug 27
# > 23:00:00 2009 EET isdst=0
gmtoff=7200
#
# > end date should be Thu Sep 24 2009 (Last Thursday in September at 23:59=
# :59)
# > http://support.microsoft.com/kb/958729/
#
# timeanddate[2] and another site I've found[3] also support that.
#
# [1] <a href="https://bugzilla.redhat.com/show_bug.cgi?id=492263">
# https://bugzilla.redhat.com/show_bug.cgi?id=492263
# </a>
# [2] <a href="http://www.timeanddate.com/worldclock/clockchange.html?n=53">
# http://www.timeanddate.com/worldclock/clockchange.html?n=53
# </a>
# [3] <a href="http://wpp.greenwichmeantime.com/time-zone/africa/egypt/">
# http://wpp.greenwichmeantime.com/time-zone/africa/egypt/
# </a>

# From Arthur David Olson (2009-04-20):
# In 2009 (and for the next several years), Ramadan ends before the fourth
# Thursday in September; Egypt is expected to revert to the last Thursday
# in September.

# From Steffen Thorsen (2009-08-11):
# We have been able to confirm the August change with the Egyptian Cabinet

```

```

# Information and Decision Support Center:
# <a
  href="http://www.timeanddate.com/news/time/egypt-dst-ends-2009.html">
# http://www.timeanddate.com/news/time/egypt-dst-ends-2009.html
# </a>
#
# The Middle East News Agency
# <a href="http://www.mena.org.eg/index.aspx">
# http://www.mena.org.eg/index.aspx
# </a>
# also reports "Egypt starts winter time on August 21"
# today in article numbered "71, 11/08/2009 12:25 GMT."
# Only the title above is available without a subscription to their service,
# and can be found by searching for "winter" in their search engine
# (at least today).

# From Alexander Krivenyshev (2010-07-20):
# According to News from Egypt - Al-Masry Al-Youm Egypt's cabinet has
# decided that Daylight Saving Time will not be used in Egypt during
# Ramadan.
#
# Arabic translation:
# "Clocks to go back during Ramadan--and then forward again"
# <a href="http://www.almasryalyoum.com/en/news/clocks-go-back-during-ramadan-and-then-forward-again">
# http://www.almasryalyoum.com/en/news/clocks-go-back-during-ramadan-and-then-forward-again
#
  </a>
# or
# <a href="http://www.worldtimezone.com/dst_news/dst_news_egypt02.html">
# http://www.worldtimezone.com/dst_news/dst_news_egypt02.html
# </a>

Rule Egypt 2008 only - Aug lastThu 23:00s 0 -
Rule Egypt 2009 only - Aug 20 23:00s 0 -
Rule Egypt 2010 only - Aug 11 0:00 0 -
Rule Egypt 2010 only - Sep 10 0:00 1:00 S
Rule Egypt 2010 only - Sep lastThu 23:00s 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Cairo 2:05:09 - LMT 1900 Oct
  2:00 Egypt EE%sT

# Equatorial Guinea
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Malabo 0:35:08 - LMT 1912
  0:00 - GMT 1963 Dec 15
  1:00 - WAT

```

```

# Eritrea
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Asmara 2:35:32 - LMT 1870
    2:35:32 - AMT 1890    # Asmara Mean Time
    2:35:20 - ADMT 1936 May 5    # Adis Dera MT
    3:00 - EAT

# Ethiopia
# From Paul Eggert (2006-03-22):
# Shanks & Pottenger write that Ethiopia had six narrowly-spaced time zones
# between 1870 and 1890, and that they merged to 38E50
# (2:35:20) in 1890.
# We'll guess that 38E50 is for Adis Dera.
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Addis_Ababa 2:34:48 - LMT 1870
    2:35:20 - ADMT 1936 May 5    # Adis Dera MT
    3:00 - EAT

# Gabon
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Libreville 0:37:48 - LMT 1912
    1:00 - WAT

# Gambia
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Banjul -1:06:36 - LMT 1912
    -1:06:36 - BMT 1935 # Banjul Mean Time
    -1:00 - WAT 1964
    0:00 - GMT

# Ghana
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
# Whitman says DST was observed from 1931 to ``the present";
# go with Shanks & Pottenger.
Rule Ghana 1936 1942 - Sep 1 0:00 0:20 GHST
Rule Ghana 1936 1942 - Dec 31 0:00 0 GMT
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Accra -0:00:52 - LMT 1918
    0:00 Ghana %s

# Guinea
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Conakry -0:54:52 - LMT 1912
    0:00 - GMT 1934 Feb 26
    -1:00 - WAT 1960
    0:00 - GMT

# Guinea-Bissau

```

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Bissau -1:02:20

- LMT 1911 May 26

-1:00 - WAT 1975

0:00 - GMT

# Kenya

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Nairobi 2:27:16 - LMT 1928 Jul

3:00 - EAT 1930

2:30 - BEAT 1940

2:45 - BEAUT 1960

3:00 - EAT

# Lesotho

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Maseru 1:50:00 - LMT 1903 Mar

2:00 - SAST 1943 Sep 19 2:00

2:00 1:00 SAST 1944 Mar 19 2:00

2:00 - SAST

# Liberia

# From Paul Eggert (2006-03-22):

# In 1972 Liberia was the last country to switch

# from a UTC offset that was not a multiple of 15 or 20 minutes.

# Howse reports that it was in honor of their president's birthday.

# Shank & Pottenger report the date as May 1, whereas Howse reports Jan;

# go with Shanks & Pottenger.

# For Liberia before 1972, Shanks & Pottenger report -0:44, whereas Howse and

# Whitman each report -0:44:30; go with the more precise figure.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Monrovia -0:43:08 - LMT 1882

-0:43:08

- MMT 1919 Mar # Monrovia Mean Time

-0:44:30 - LRT 1972 May # Liberia Time

0:00 - GMT

#####

# Libya

# From Even Scharning (2012-11-10):

# Libya set their time one hour back at 02:00 on Saturday November 10.

# <http://www.libyaherald.com/2012/11/04/clocks-to-go-back-an-hour-on-saturday/>

# Here is an official source [in Arabic]: <http://ls.ly/fb6Yc>

#

# Steffen Thorsen forwarded a translation (2012-11-10) in

# <http://mm.icann.org/pipermail/tz/2012-November/018451.html>

#  
# From Tim Parenti (2012-11-11):  
# Treat the 2012-11-10 change as a zone change from UTC+2 to UTC+1.  
# The DST rules planned for 2013 and onward roughly mirror those of Europe  
# (either two days before them or five days after them, so as to fall on  
# lastFri instead of lastSun).

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Libya 1951 only - Oct 14 2:00 1:00 S

Rule Libya 1952 only - Jan 1 0:00 0 -

Rule Libya 1953 only - Oct

9 2:00 1:00 S

Rule Libya 1954 only - Jan 1 0:00 0 -

Rule Libya 1955 only - Sep 30 0:00 1:00 S

Rule Libya 1956 only - Jan 1 0:00 0 -

Rule Libya 1982 1984 - Apr 1 0:00 1:00 S

Rule Libya 1982 1985 - Oct 1 0:00 0 -

Rule Libya 1985 only - Apr 6 0:00 1:00 S

Rule Libya 1986 only - Apr 4 0:00 1:00 S

Rule Libya 1986 only - Oct 3 0:00 0 -

Rule Libya 1987 1989 - Apr 1 0:00 1:00 S

Rule Libya 1987 1989 - Oct 1 0:00 0 -

Rule Libya 1997 only - Apr 4 0:00 1:00 S

Rule Libya 1997 only - Oct 4 0:00 0 -

Rule Libya 2013 max - Mar lastFri 1:00 1:00 S

Rule Libya 2013 max - Oct lastFri 2:00 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Tripoli 0:52:44 - LMT 1920

1:00 Libya CE%sT 1959

2:00 - EET 1982

1:00 Libya CE%sT 1990 May 4

# The 1996 and 1997 entries are from Shanks & Pottenger;

# the IATA SSIM data contain some obvious errors.

2:00 - EET 1996 Sep 30

1:00 Libya CE%sT 1997 Oct 4

2:00 - EET 2012 Nov 10 2:00

1:00 Libya CE%sT

# Madagascar

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone

Indian/Antananarivo 3:10:04 - LMT 1911 Jul

3:00 - EAT 1954 Feb 27 23:00s

3:00 1:00 EAST 1954 May 29 23:00s

3:00 - EAT

# Malawi

# Zone NAME GMTOFF RULES FORMAT [UNTIL]



Zone Africa/Blantyre 2:20:00 - LMT 1903 Mar

2:00 - CAT

# Mali

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Bamako -0:32:00 - LMT 1912

0:00 - GMT 1934 Feb 26

-1:00 - WAT 1960 Jun 20

0:00 - GMT

# Mauritania

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Nouakchott -1:03:48 - LMT 1912

0:00 - GMT 1934 Feb 26

-1:00 - WAT 1960 Nov 28

0:00 - GMT

# Mauritius

# From Steffen Thorsen (2008-06-25):

# Mauritius plans to observe DST from 2008-11-01 to 2009-03-31 on a trial  
# basis....

# It seems that Mauritius observed daylight saving time from 1982-10-10 to  
# 1983-03-20 as well, but that was not successful....

# <http://www.timeanddate.com/news/time/mauritius-daylight-saving-time.html>

# From Alex Krivenyshev (2008-06-25):

#

[http://economicdevelopment.gov.mu/portal/site/Mainhomepage/menuitem.a42b24128104d9845dabddd154508a0c/?content\\_id=0a7cee8b5d69a110VgnVCM1000000a04a8c0RCRD](http://economicdevelopment.gov.mu/portal/site/Mainhomepage/menuitem.a42b24128104d9845dabddd154508a0c/?content_id=0a7cee8b5d69a110VgnVCM1000000a04a8c0RCRD)

#

From Arthur David Olson (2008-06-30):

# The [www.timeanddate.com](http://www.timeanddate.com) article cited by Steffen Thorsen notes that "A  
# final decision has yet to be made on the times that daylight saving  
# would begin and end on these dates." As a place holder, use midnight.

# From Paul Eggert (2008-06-30):

# Follow Thorsen on DST in 1982/1983, instead of Shanks & Pottenger.

# From Steffen Thorsen (2008-07-10):

# According to

# [http://www.lexpress.mu/display\\_article.php?news\\_id=111216](http://www.lexpress.mu/display_article.php?news_id=111216)

# [http://www.lexpress.mu/display\\_article.php?news\\_id=111216](http://www.lexpress.mu/display_article.php?news_id=111216)

# [/a](#)

# (in French), Mauritius will start and end their DST a few days earlier  
# than previously announced (2008-11-01 to 2009-03-31). The new start  
# date is 2008-10-26 at 02:00 and the new end date is 2009-03-27 (no time

# given, but it is probably at either 2 or 3 wall clock time).  
#  
# A little strange though, since the article  
# says that they moved the date  
# to align itself with Europe and USA which also change time on that date,  
# but that means they have not paid attention to what happened in  
# USA/Canada last year (DST ends first Sunday in November). I also wonder  
# why that they end on a Friday, instead of aligning with Europe which  
# changes two days later.

# From Alex Krivenyshev (2008-07-11):  
# Seems that English language article "The revival of daylight saving  
# time: Energy conservation?"-# No. 16578 (07/11/2008) was originally  
# published on Monday, June 30, 2008...  
#  
# I guess that article in French "Le gouvernement avance l'introduction  
# de l'heure d'ete" stating that DST in Mauritius starting on October 26  
# and ending on March 27, 2009 is the most recent one.  
# ...  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_mauritius02.html">  
# http://www.worldtimezone.com/dst\_news/dst\_news\_mauritius02.html  
# </a>

# From Riad M. Hossen Ally (2008-08-03):  
# The Government of Mauritius weblink  
#  
# <a  
# href="http://www.gov.mu/portal/site/pmosite/menuitem.4ca0efdee47462e7440a600248a521ca/?content\_id=4728ca  
# 68b2a5b110VgnVCM1000000a04a8c0RCRD">  
#  
# http://www.gov.mu/portal/site/pmosite/menuitem.4ca0efdee47462e7440a600248a521ca/?content\_id=4728ca68b2a5  
# b110VgnVCM1000000a04a8c0RCRD  
# </a>  
# Cabinet Decision of July 18th, 2008 states as follows:  
#  
# 4. ...Cabinet has agreed to the introduction into the National Assembly  
# of the Time Bill which provides for the introduction of summer time in  
# Mauritius. The summer time period which will be of one hour ahead of  
# the standard time, will be aligned with that in Europe and the United  
# States of America. It will start at two o'clock in the morning on the  
# last Sunday of October and will end at two o'clock in the morning on  
# the last Sunday of March the following year. The summer time for the  
# year 2008 - 2009 will, therefore, be effective as from 26 October 2008  
# and end on 29 March 2009.

# From Ed Maste (2008-10-07):  
# THE TIME BILL (No.

XXVII of 2008) Explanatory Memorandum states the  
# beginning / ending of summer time is 2 o'clock standard time in the  
# morning of the last Sunday of October / last Sunday of March.  
# <a href="http://www.gov.mu/portal/goc/assemblysite/file/bill2708.pdf">  
# http://www.gov.mu/portal/goc/assemblysite/file/bill2708.pdf  
# </a>

# From Steffen Thorsen (2009-06-05):  
# According to several sources, Mauritius will not continue to observe  
# DST the coming summer...  
#  
# Some sources, in French:  
# <a href="http://www.defimedia.info/news/946/Rashid-Beebeejaun-:-%C2%AB-L%E2%80%99heure-d%E2%80%99%C3%A9t%C3%A9-ne-sera-pas-appliqu%C3%A9-cette-ann%C3%A9-%C2%BB">  
# http://www.defimedia.info/news/946/Rashid-Beebeejaun-:-%C2%AB-L%E2%80%99heure-d%E2%80%99%C3%A9t%C3%A9-ne-sera-pas-appliqu%C3%A9-cette-ann%C3%A9-%C2%BB  
# </a>  
# <a href="http://lexpress.mu/Story/3398~Beebeejaun---Les-objectifs-d-%C3%A9conomie-d-%C3%A9nergie-de-l-heure-d-%C3%A9t%C3%A9-ont-%C3%A9t%C3%A9-atteints-">  
# http://lexpress.mu/Story/3398~Beebeejaun---Les-objectifs-d-%C3%A9conomie-d-%C3%A9nergie-de-l-heure-d-%C3%A9t%C3%A9-ont-%C3%A9t%C3%A9-atteints-  
# </a>  
#  
# Our wrap-up:  
# <a href="http://www.timeanddate.com/news/time/mauritius-dst-will-not-repeat.html">  
# http://www.timeanddate.com/news/time/mauritius-dst-will-not-repeat.html  
# </a>

# From Arthur David Olson (2009-07-11):  
# The "mauritius-dst-will-not-repeat" wrapup includes this:  
# "The trial ended on March 29, 2009, when the clocks moved back by one hour  
# at 2am (or 02:00) local time..."

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Mauritius 1982 only - Oct 10 0:00 1:00 S  
Rule Mauritius 1983 only - Mar 21 0:00 0 -  
Rule Mauritius 2008 only - Oct lastSun 2:00 1:00 S  
Rule Mauritius 2009 only - Mar lastSun 2:00 0 -  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Indian/Mauritius 3:50:00 - LMT 1907 # Port Louis  
4:00 Mauritius MU%ST # Mauritius Time  
# Agalega Is, Rodriguez  
# no information; probably like Indian/Mauritius

# Mayotte  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Indian/Mayotte 3:00:56

- LMT 1911 Jul # Mamoutzou

3:00 - EAT

# Morocco

# See the `europe' file for Spanish Morocco (Africa/Ceuta).

# From Alex Krivenyshev (2008-05-09):

# Here is an article that Morocco plan to introduce Daylight Saving Time between

# 1 June, 2008 and 27 September, 2008.

#

# "... Morocco is to save energy by adjusting its clock during summer so it will

# be one hour ahead of GMT between 1 June and 27 September, according to

# Communication Minister and Government Spokesman, Khalid Naciri..."

#

# <a href="http://www.worldtimezone.net/dst\_news/dst\_news\_morocco01.html">

# http://www.worldtimezone.net/dst\_news/dst\_news\_morocco01.html

# </a>

# OR

# <a href="http://en.afrik.com/news11892.html">

# http://en.afrik.com/news11892.html

# </a>

# From Alex Krivenyshev (2008-05-09):

# The Morocco time change can be confirmed on Morocco web site Maghreb Arabe Presse:

# <a href="http://www.map.ma/eng/sections/box3/morocco\_shifts\_to\_da/view">

# http://www.map.ma/eng/sections/box3/morocco\_shifts\_to\_da/view

#

</a>

#

# Morocco shifts to daylight time on June 1st through September 27, Govt.

# spokesman.

# From Patrice Scattolin (2008-05-09):

# According to this article:

# <a href="http://www.avmaroc.com/actualite/heure-dete-comment-a127896.html">

# http://www.avmaroc.com/actualite/heure-dete-comment-a127896.html

# </a>

# (and republished here:

# <a href="http://www.actu.ma/heure-dete-comment\_i127896\_0.html">

# http://www.actu.ma/heure-dete-comment\_i127896\_0.html

# </a>

# )

# the changes occurs at midnight:

#

# saturday night may 31st at midnight (which in french is to be

# intepreted as the night between saturday and sunday)

# sunday night the 28th at midnight

#

# Seeing that the 28th is monday, I am guessing that she intends to say  
# the midnight of the 28th which is the midnight between sunday and  
# monday, which jives with other sources that say that it's inclusive  
# june 1st to sept 27th.  
#  
# The decision was taken by decree \*2-08-224  
# \*but I can't find the decree  
# published on the web.  
#  
# It's also confirmed here:  
# <a href="http://www.maroc.ma/NR/exeres/FACF141F-D910-44B0-B7FA-6E03733425D1.htm">  
# http://www.maroc.ma/NR/exeres/FACF141F-D910-44B0-B7FA-6E03733425D1.htm  
# </a>  
# on a government portal as being between june 1st and sept 27th (not yet  
# posted in english).  
#  
# The following google query will generate many relevant hits:  
# <a  
# href="http://www.google.com/search?hl=en&q=Conseil+de+gouvernement+maroc+heure+avance&btnG=Search">  
# http://www.google.com/search?hl=en&q=Conseil+de+gouvernement+maroc+heure+avance&btnG=Search  
# </a>

# From Alex Krivenyshev (2008-05-09):  
# Is Western Sahara (part which administrated by Morocco) going to follow  
# Morocco DST changes? Any information? What about other part of  
# Western Sahara - under administration of POLISARIO Front (also named  
# SADR Saharawi Arab Democratic Republic)?

# From Arthur David Olson (2008-05-09):  
# XXX--guess that it is only Morocco for  
# now; guess only 2008 for now.

# From Steffen Thorsen (2008-08-27):  
# Morocco will change the clocks back on the midnight between August 31  
# and September 1. They originally planned to observe DST to near the end  
# of September:  
#  
# One article about it (in French):  
# <a  
# href="http://www.menara.ma/fr/Actualites/Maroc/Societe/ci.retour\_a\_1\_heure\_gmt\_a\_partir\_du\_dimanche\_31\_aout  
# \_a\_minuit\_officiel\_.default">  
#  
# http://www.menara.ma/fr/Actualites/Maroc/Societe/ci.retour\_a\_1\_heure\_gmt\_a\_partir\_du\_dimanche\_31\_aout\_a\_mi  
# nuit\_officiel\_.default  
# </a>  
#  
# We have some further details posted here:  
# <a href="http://www.timeanddate.com/news/time/morocco-ends-dst-early-2008.html">

# <http://www.timeanddate.com/news/time/morocco-ends-dst-early-2008.html>

# </a>

# From Steffen Thorsen (2009-03-17):

# Morocco will observe DST from 2009-06-01 00:00 to 2009-08-21 00:00 according

# to many sources, such as

# <a href="http://news.marweb.com/morocco/entertainment/morocco-daylight-saving.html">

# <http://news.marweb.com/morocco/entertainment/morocco-daylight-saving.html>

#

</a>

# <a href="http://www.medi1sat.ma/fr/depeche.aspx?idp=2312">

# <http://www.medi1sat.ma/fr/depeche.aspx?idp=2312>

# </a>

# (French)

#

# Our summary:

# <a href="http://www.timeanddate.com/news/time/morocco-starts-dst-2009.html">

# <http://www.timeanddate.com/news/time/morocco-starts-dst-2009.html>

# </a>

# From Alexander Krivenyshev (2009-03-17):

# Here is a link to official document from Royaume du Maroc Premier Ministre,

# Ministere de la Modernisation des Secteurs Publics

#

# Under Article 1 of Royal Decree No. 455-67 of Act 23 safar 1387 (2 june 1967)

# concerning the amendment of the legal time, the Ministry of Modernization of

# Public Sectors announced that the official time in the Kingdom will be

# advanced 60 minutes from Sunday 31 May 2009 at midnight.

#

# <a href="http://www.mmsp.gov.ma/francais/Actualites\_fr/PDF\_Actualites\_Fr/HeureEte\_FR.pdf">

# [http://www.mmsp.gov.ma/francais/Actualites\\_fr/PDF\\_Actualites\\_Fr/HeureEte\\_FR.pdf](http://www.mmsp.gov.ma/francais/Actualites_fr/PDF_Actualites_Fr/HeureEte_FR.pdf)

#

</a>

#

# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_morocco03.html">

# [http://www.worldtimezone.com/dst\\_news/dst\\_news\\_morocco03.html](http://www.worldtimezone.com/dst_news/dst_news_morocco03.html)

# </a>

# From Steffen Thorsen (2010-04-13):

# Several news media in Morocco report that the Ministry of Modernization

# of Public Sectors has announced that Morocco will have DST from

# 2010-05-02 to 2010-08-08.

#

# Example:

# <a href="http://www.lavieeco.com/actualites/4099-le-maroc-passera-a-l-heure-d-ete-gmt1-le-2-mai.html">

# <http://www.lavieeco.com/actualites/4099-le-maroc-passera-a-l-heure-d-ete-gmt1-le-2-mai.html>

# </a>

# (French)

```
# Our page:
# <a href="http://www.timeanddate.com/news/time/morocco-starts-dst-2010.html">
# http://www.timeanddate.com/news/time/morocco-starts-dst-2010.html
# </a>

# From Dan Abitol (2011-03-30):
# ...Rules for Africa/Casablanca are the following (24h format)
# The 3rd april 2011 at 00:00:00, [it] will be 3rd april 1:00:00
# The 31th july 2011 at 00:59:59, [it] will be 31th July 00:00:00
#
# ...Official links of change in morocco
# The change was broadcast on the FM Radio
# I ve called ANRT (telecom regulations in Morocco) at
# +212.537.71.84.00
# <a href="http://www.anrt.net.ma/fr/">
# http://www.anrt.net.ma/fr/
# </a>
# They said that
# <a href="http://www.map.ma/fr/sections/accueil/l_heure_legale_au_ma/view">
# http://www.map.ma/fr/sections/accueil/l_heure_legale_au_ma/view
# </a>
# is the official publication to look at.
# They said that the decision was already taken.
#
# More articles in the press
# <a href="http://www.yabiladi.com/articles/details/5058/secret-l-heure-d-ete-maroc-lev">
# http://www.yabiladi.com/articles/details/5058/secret-l-heure-d-ete-maroc-lev
# </a>
# e.html
# <a href="http://www.lematin.ma/Actualite/Express/Article.asp?id=148923">
# http://www.lematin.ma/Actualite/Express/Article.asp?id=148923
# </a>
# <a href="http://www.lavieeco.com/actualite/Le-Maroc-passe-sur-GMT%2B1-a-partir-de-dim">
# http://www.lavieeco.com/actualite/Le-Maroc-passe-sur-GMT%2B1-a-partir-de-dim
#
#   anche-prochain-5538.html
# </a>

# From Petr Machata (2011-03-30):
# They have it written in English here:
# <a href="http://www.map.ma/eng/sections/home/morocco_to_spring_fo/view">
# http://www.map.ma/eng/sections/home/morocco_to_spring_fo/view
# </a>
#
# It says there that "Morocco will resume its standard time on July 31,
# 2011 at midnight." Now they don't say whether they mean midnight of
# wall clock time (i.e. 11pm UTC), but that's what I would assume. It has
# also been like that in the past.
```

# From Alexander Krivenyshev (2012-03-09):  
# According to Infomediaire web site from Morocco (infomediaire.ma),  
# on March 9, 2012, (in French) Heure d'été:  
# Le Maroc adopte officiellement l'heure d'été;  
# <a href="http://www.infomediaire.ma/news/maroc/heure-1%C3%A9gale-le-maroc-adopte-officiellement-lheure-  
d%C3%A9t%C3%A9">  
# http://www.infomediaire.ma/news/maroc/heure-1%C3%A9gale-le-maroc-adopte-officiellement-lheure-  
d%C3%A9t%C3%A9  
#  
</a>

# Governing Council adopted draft decree, that Morocco DST starts on  
# the last Sunday of March (March 25, 2012) and ends on  
# last Sunday of September (September 30, 2012)  
# except the month of Ramadan.  
# or (brief)  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_morocco06.html">  
# http://www.worldtimezone.com/dst\_news/dst\_news\_morocco06.html  
# </a>

# From Arthur David Olson (2012-03-10):  
# The infomediaire.ma source indicates that the system is to be in  
# effect every year. It gives 03H00 as the "fall back" time of day;  
# it lacks a "spring forward" time of day; assume 2:00 XXX.  
# Wait on specifying the Ramadan exception for details about  
# start date, start time of day, end date, and end time of day XXX.

# From Christophe Tropamer (2012-03-16):  
# Seen Morocco change again:  
# <a href="http://www.le2uminutes.com/actualite.php">  
# http://www.le2uminutes.com/actualite.php  
# </a>  
# "...&agrave; partir du dernier dimance d'avril et non fins mars,  
# comme annonc&eacute;  
pr&eacute;c&eacute;demment."

# From Milamber Space Network (2012-07-17):  
# The official return to GMT is announced by the Moroccan government:  
# <a href="http://www.mmsp.gov.ma/fr/actualites.aspx?id=288">  
# http://www.mmsp.gov.ma/fr/actualites.aspx?id=288 [in French]  
# </a>  
#  
# Google translation, lightly edited:  
# Back to the standard time of the Kingdom (GMT)  
# Pursuant to Decree No. 2-12-126 issued on 26 Jumada (I) 1433 (April 18,  
# 2012) and in accordance with the order of Mr. President of the  
# Government No. 3-47-12 issued on 24 Sha'ban (11 July 2012), the Ministry  
# of Public Service and Administration Modernization announces the return



```
# of the legal time of the Kingdom (GMT) from Friday, July 20, 2012 until
# Monday, August 20, 2012. So the time will be delayed by 60 minutes from
# 3:00 am Friday, July 20, 2012 and will again be advanced by 60 minutes
# August 20, 2012 from 2:00 am.
```

```
# From Paul Eggert (2013-03-06):
```

```
# Morocco's daylight-saving transitions due to Ramadan seem
to be
```

```
# announced a bit in advance. On 2012-07-11 the Moroccan government
# announced that year's Ramadan daylight-saving transitions would be
# 2012-07-20 and 2012-08-20; see
```

```
# <http://www.mmsp.gov.ma/fr/actualites.aspx?id=288>.
```

```
#
```

```
# To estimate what the Moroccan government will do in future years,
# transition dates for 2013 through 2021 were determined by running
# the following program under GNU Emacs 24.3:
```

```
#
```

```
# (let ((islamic-year 1434))
```

```
# (while (< islamic-year 1444)
```

```
# (let ((a
```

```
# (calendar-gregorian-from-absolute
```

```
# (calendar-islamic-to-absolute (list 9 1 islamic-year))))
```

```
# (b
```

```
# (calendar-gregorian-from-absolute
```

```
# (calendar-islamic-to-absolute (list 10 1 islamic-year))))
```

```
# (insert
```

```
# (format
```

```
# (concat "Rule\tMorocco\t%d\tonly\t-\t%s\t %2d\t 3:00\t0\t-\n"
```

```
# "Rule\tMorocco\t%d\tonly\t-\t%s\t %2d\t 2:00\t1:00\tS\n")
```

```
# (car (cdr (cdr a))) (calendar-month-name (car a) t) (car (cdr a))
```

```
# (car (cdr (cdr b))) (calendar-month-name (car b) t) (car (cdr
b))))
```

```
# (setq islamic-year (+ 1 islamic-year))))
```

```
#
```

```
# with the results hand-edited for 2020-2022, when the normal spring-forward
```

```
# date falls during the estimated Ramadan.
```

```
#
```

```
# From 2023 through 2038 Ramadan is not predicted to overlap with
```

```
# daylight saving time. Starting in 2039 there will be overlap again,
```

```
# but 32-bit time_t values roll around in 2038 so for now do not worry
```

```
# about dates after 2038.
```

```
# RULE NAME FROM TO TYPE IN ON AT SAVE LETTER/S
```

```
Rule Morocco 1939 only - Sep 12 0:00 1:00 S
```

```
Rule Morocco 1939 only - Nov 19 0:00 0 -
```

```
Rule Morocco 1940 only - Feb 25 0:00 1:00 S
```

```
Rule Morocco 1945 only - Nov 18 0:00 0 -
```

Rule Morocco 1950 only - Jun 11 0:00 1:00 S  
 Rule Morocco 1950 only - Oct 29 0:00 0 -  
 Rule Morocco 1967 only - Jun 3 12:00 1:00 S  
 Rule Morocco 1967 only - Oct 1 0:00 0 -  
 Rule Morocco 1974 only - Jun 24 0:00 1:00 S  
 Rule Morocco 1974 only - Sep 1 0:00 0 -  
 Rule Morocco 1976 1977 - May 1 0:00 1:00 S  
 Rule Morocco 1976 only - Aug 1 0:00 0 -  
 Rule Morocco 1977 only - Sep 28  
 0:00 0 -  
 Rule Morocco 1978 only - Jun 1 0:00 1:00 S  
 Rule Morocco 1978 only - Aug 4 0:00 0 -  
 Rule Morocco 2008 only - Jun 1 0:00 1:00 S  
 Rule Morocco 2008 only - Sep 1 0:00 0 -  
 Rule Morocco 2009 only - Jun 1 0:00 1:00 S  
 Rule Morocco 2009 only - Aug 21 0:00 0 -  
 Rule Morocco 2010 only - May 2 0:00 1:00 S  
 Rule Morocco 2010 only - Aug 8 0:00 0 -  
 Rule Morocco 2011 only - Apr 3 0:00 1:00 S  
 Rule Morocco 2011 only - Jul 31 0 0 -  
 Rule Morocco 2012 2019 - Apr lastSun 2:00 1:00 S  
 Rule Morocco 2012 max - Sep lastSun 3:00 0 -  
 Rule Morocco 2012 only - Jul 20 3:00 0 -  
 Rule Morocco 2012 only - Aug 20 2:00 1:00 S  
 Rule Morocco 2013 only - Jul 9 3:00 0 -  
 Rule Morocco 2013 only - Aug 8 2:00 1:00 S  
 Rule Morocco 2014 only - Jun 29 3:00 0 -  
 Rule Morocco 2014 only - Jul 29 2:00 1:00 S  
 Rule Morocco 2015 only - Jun 18 3:00 0 -  
 Rule Morocco 2015 only - Jul 18 2:00 1:00 S  
 Rule Morocco 2016 only - Jun 7 3:00 0 -  
 Rule Morocco 2016 only - Jul 7 2:00 1:00 S  
 Rule Morocco 2017 only - May  
 27 3:00 0 -  
 Rule Morocco 2017 only - Jun 26 2:00 1:00 S  
 Rule Morocco 2018 only - May 16 3:00 0 -  
 Rule Morocco 2018 only - Jun 15 2:00 1:00 S  
 Rule Morocco 2019 only - May 6 3:00 0 -  
 Rule Morocco 2019 only - Jun 5 2:00 1:00 S  
 Rule Morocco 2020 only - May 24 2:00 1:00 S  
 Rule Morocco 2021 only - May 13 2:00 1:00 S  
 Rule Morocco 2022 only - May 3 2:00 1:00 S  
 Rule Morocco 2023 max - Apr lastSun 2:00 1:00 S

# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Africa/Casablanca -0:30:20 - LMT 1913 Oct 26  
 0:00 Morocco WE%ST 1984 Mar 16  
 1:00 - CET 1986

```

0:00 Morocco WE%ST
# Western Sahara
Zone Africa/El_Aaiun -0:52:48 - LMT 1934 Jan
-1:00 - WAT 1976 Apr 14
0:00 - WET

# Mozambique
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Maputo 2:10:20 - LMT 1903 Mar
2:00 - CAT

# Namibia
# The 1994-04-03 transition is from Shanks & Pottenger.
# Shanks & Pottenger report no DST after 1998-04; go with IATA.

# From Petronella Sibeene
(2007-03-30) in
# <http://allafrica.com/stories/200703300178.html>:
# While the entire country changes its time, Katima Mulilo and other
# settlements in Caprivi unofficially will not because the sun there
# rises and sets earlier compared to other regions. Chief of
# Forecasting Riaan van Zyl explained that the far eastern parts of
# the country are close to 40 minutes earlier in sunrise than the rest
# of the country.
#
# From Paul Eggert (2007-03-31):
# Apparently the Caprivi Strip informally observes Botswana time, but
# we have no details. In the meantime people there can use Africa/Gaborone.

# RULE NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Namibia 1994 max - Sep Sun>=1 2:00 1:00 S
Rule Namibia 1995 max - Apr Sun>=1 2:00 0 -
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Windhoek 1:08:24 - LMT 1892 Feb 8
1:30 - SWAT 1903 Mar # SW Africa Time
2:00 - SAST 1942 Sep 20 2:00
2:00 1:00 SAST 1943 Mar 21 2:00
2:00 - SAST 1990 Mar 21 # independence
2:00 - CAT 1994
Apr 3
1:00 Namibia WA%ST

# Niger
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Niamey 0:08:28 - LMT 1912
-1:00 - WAT 1934 Feb 26
0:00 - GMT 1960
1:00 - WAT

```

```

# Nigeria
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone Africa/Lagos 0:13:36 - LMT 1919 Sep
  1:00 - WAT

# Reunion
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone Indian/Reunion 3:41:52 - LMT 1911 Jun # Saint-Denis
  4:00 - RET # Reunion Time
#
# Scattered Islands (Iles Eparses) administered from Reunion are as follows.
# The following information about them is taken from
# Iles Eparses (www.outre-mer.gouv.fr/domtom/ile.htm, 1997-07-22, in French;
# no longer available as of 1999-08-17).
# We have no info about their time zone histories.
#
# Bassas da India - uninhabited
# Europa Island - inhabited from 1905 to 1910 by two families
# Glorioso Is - inhabited until at least 1958
# Juan de Nova - uninhabited
# Tromelin - inhabited until at least 1958

# Rwanda
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone Africa/Kigali 2:00:16
  - LMT 1935 Jun
  2:00 - CAT

# St Helena
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone Atlantic/St_Helena -0:22:48 - LMT 1890 # Jamestown
  -0:22:48 - JMT 1951 # Jamestown Mean Time
  0:00 - GMT
# The other parts of the St Helena territory are similar:
# Tristan da Cunha: on GMT, say Whitman and the CIA
# Ascension: on GMT, says usno1995 and the CIA
# Gough (scientific station since 1955; sealers wintered previously):
# on GMT, says the CIA
# Inaccessible, Nightingale: no information, but probably GMT

# Sao Tome and Principe
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone Africa/Sao_Tome 0:26:56 - LMT 1884
  -0:36:32 - LMT 1912 # Lisbon Mean Time
  0:00 - GMT

# Senegal

```

```

# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Dakar -1:09:44 - LMT 1912
  -1:00 - WAT 1941 Jun
  0:00 - GMT

# Seychelles
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Indian/Mahe 3:41:48 - LMT 1906 Jun # Victoria
  4:00 - SCT # Seychelles Time
# From Paul Eggert (2001-05-30):
#
  Aldabra, Farquhar, and Desroches, originally dependencies of the
# Seychelles, were transferred to the British Indian Ocean Territory
# in 1965 and returned to Seychelles control in 1976. We don't know
# whether this affected their time zone, so omit this for now.
# Possibly the islands were uninhabited.

# Sierra Leone
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
# Whitman gives Mar 31 - Aug 31 for 1931 on; go with Shanks & Pottenger.
Rule SL 1935 1942 - Jun 1 0:00 0:40 SLST
Rule SL 1935 1942 - Oct 1 0:00 0 WAT
Rule SL 1957 1962 - Jun 1 0:00 1:00 SLST
Rule SL 1957 1962 - Sep 1 0:00 0 GMT
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Freetown -0:53:00 - LMT 1882
  -0:53:00 - FMT 1913 Jun # Freetown Mean Time
  -1:00 SL %s 1957
  0:00 SL %s

# Somalia
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Mogadishu 3:01:28 - LMT 1893 Nov
  3:00 - EAT 1931
  2:30 - BEAT 1957
  3:00 - EAT

# South Africa
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule SA 1942 1943 - Sep Sun>=15 2:00 1:00 -
Rule SA 1943 1944 - Mar Sun>=15 2:00 0 -
#
  Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Africa/Johannesburg 1:52:00 - LMT 1892 Feb 8
  1:30 - SAST 1903 Mar
  2:00 SA SAST
# Marion and Prince Edward Is
# scientific station since 1947

```

# no information

# Sudan

#

# From <a href="http://www.sunanews.net/sn13jane.html">

# Sudan News Agency (2000-01-13)

# </a>, also reported by Michael De Beukelaer-Dossche via Steffen Thorsen:

# Clocks will be moved ahead for 60 minutes all over the Sudan as of noon

# Saturday.... This was announced Thursday by Caretaker State Minister for

# Manpower Abdul-Rahman Nur-Eddin.

#

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Sudan 1970 only - May 1 0:00 1:00 S

Rule Sudan 1970 1985 - Oct 15 0:00 0 -

Rule Sudan 1971 only - Apr 30 0:00 1:00 S

Rule Sudan 1972 1985 - Apr lastSun 0:00 1:00 S

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Khartoum 2:10:08 - LMT 1931

2:00 Sudan CA%sT 2000 Jan 15 12:00

3:00 - EAT

# South

Sudan

Zone Africa/Juba 2:06:24 - LMT 1931

2:00 Sudan CA%sT 2000 Jan 15 12:00

3:00 - EAT

# Swaziland

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Mbabane 2:04:24 - LMT 1903 Mar

2:00 - SAST

# Tanzania

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Dar\_es\_Salaam 2:37:08 - LMT 1931

3:00 - EAT 1948

2:45 - BEAUT 1961

3:00 - EAT

# Togo

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Africa/Lome 0:04:52 - LMT 1893

0:00 - GMT

# Tunisia

# From Gwillim Law (2005-04-30):

# My correspondent, Risto Nykanen, has alerted me to another adoption of DST,

# this time in Tunisia. According to Yahoo France News  
# <<http://fr.news.yahoo.com/050426/5/4dumk.html>>, in a story attributed to AP  
# and dated 2005-04-26, "Tunisia has decided to advance its official time by  
# one hour, starting on Sunday, May 1. Henceforth, Tunisian time will be  
# UTC+2 instead of UTC+1. The change will take place at 23:00 UTC next  
# Saturday." (My translation)  
#  
# From Oscar van Vlijmen (2005-05-02):  
#  
# LaPresse, the first national daily newspaper ...  
# <<http://www.lapresse.tn/archives/archives280405/actualites/lheure.html>>  
# ... DST for 2005: on: Sun May 1 0h standard time, off: Fri Sept. 30,  
# 1h standard time.  
#  
# From Atef Loukil (2006-03-28):  
# The daylight saving time will be the same each year:  
# Beginning : the last Sunday of March at 02:00  
# Ending : the last Sunday of October at 03:00 ...  
# [http://www.tap.info.tn/en/index.php?option=com\\_content&task=view&id=1188&Itemid=50](http://www.tap.info.tn/en/index.php?option=com_content&task=view&id=1188&Itemid=50)

# From Steffen Thorsen (2009-03-16):  
# According to several news sources, Tunisia will not observe DST this year.  
# (Arabic)  
# <<http://www.elbashayer.com/?page=viewn&nid=42546>>  
# <http://www.elbashayer.com/?page=viewn&nid=42546>  
# </a>  
# <<http://www.babnet.net/kiwidetail-15295.asp>>  
# <http://www.babnet.net/kiwidetail-15295.asp>  
# </a>  
#  
# We have also confirmed this with the US embassy in Tunisia.  
# We have a wrap-up about this on the following page:  
# <<http://www.timeanddate.com/news/time/tunisia-cancels-dst-2009.html>>  
#  
# <http://www.timeanddate.com/news/time/tunisia-cancels-dst-2009.html>  
# </a>

# From Alexander Krivenyshev (2009-03-17):  
# Here is a link to Tunis Afrique Presse News Agency  
#  
# Standard time to be kept the whole year long (tap.info.tn):  
#  
# (in English)  
# <[http://www.tap.info.tn/en/index.php?option=com\\_content&task=view&id=26813&Itemid=157](http://www.tap.info.tn/en/index.php?option=com_content&task=view&id=26813&Itemid=157)>  
# [http://www.tap.info.tn/en/index.php?option=com\\_content&task=view&id=26813&Itemid=157](http://www.tap.info.tn/en/index.php?option=com_content&task=view&id=26813&Itemid=157)  
# </a>  
#  
# (in Arabic)

```
# <a href="http://www.tap.info.tn/ar/index.php?option=com_content&task=view&id=61240&Itemid=1">
# http://www.tap.info.tn/ar/index.php?option=com_content&task=view&id=61240&Itemid=1
# </a>
```

```
# From Arthur David Olson (2009--3-18):
```

```
# The Tunis Afrique Presse News Agency notice contains this: "This measure is due to the fact
# that the fasting month of ramadan coincides with the period concerned by summer time.
# Therefore, the standard time will be kept unchanged the whole
# year long."
# So foregoing DST seems to be an exception (albeit one that may be repeated in the future).
```

```
# From Alexander Krivenyshev (2010-03-27):
```

```
# According to some news reports Tunisia confirmed not to use DST in 2010
#
```

```
# (translation):
```

```
# "The Tunisian government has decided to abandon DST, which was scheduled on
# Sunday...
# Tunisian authorities had suspended the DST for the first time last year also
# coincided with the month of Ramadan..."
```

```
#
```

```
# (in Arabic)
```

```
# <a href="http://www.moheet.com/show_news.aspx?nid=358861&pg=1">
```

```
# http://www.moheet.com/show_news.aspx?nid=358861&pg=1
```

```
# <a href="http://www.almadenahnews.com/newss/news.php?c=118&id=38036">
```

```
# http://www.almadenahnews.com/newss/news.php?c=118&id=38036
```

```
# or
```

```
# <a href="http://www.worldtimezone.com/dst_news/dst_news_tunis02.html">
```

```
# http://www.worldtimezone.com/dst_news/dst_news_tunis02.html
```

```
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
```

```
Rule Tunisia 1939 only - Apr 15 23:00s 1:00 S
```

```
Rule Tunisia 1939 only - Nov 18 23:00s 0 -
```

```
Rule Tunisia 1940 only - Feb 25 23:00s 1:00 S
```

```
Rule Tunisia 1941 only - Oct
```

```
6 0:00 0 -
```

```
Rule Tunisia 1942 only - Mar 9 0:00 1:00 S
```

```
Rule Tunisia 1942 only - Nov 2 3:00 0 -
```

```
Rule Tunisia 1943 only - Mar 29 2:00 1:00 S
```

```
Rule Tunisia 1943 only - Apr 17 2:00 0 -
```

```
Rule Tunisia 1943 only - Apr 25 2:00 1:00 S
```

```
Rule Tunisia 1943 only - Oct 4 2:00 0 -
```

```
Rule Tunisia 1944 1945 - Apr Mon>=1 2:00 1:00 S
```

```
Rule Tunisia 1944 only - Oct 8 0:00 0 -
```

```
Rule Tunisia 1945 only - Sep 16 0:00 0 -
```

```
Rule Tunisia 1977 only - Apr 30 0:00s 1:00 S
```

```
Rule Tunisia 1977 only - Sep 24 0:00s 0 -
```

```
Rule Tunisia 1978 only - May 1 0:00s 1:00 S
```

```
Rule Tunisia 1978 only - Oct 1 0:00s 0 -
```



Rule Tunisia 1988 only - Jun 1 0:00s 1:00 S  
Rule Tunisia 1988 1990 - Sep lastSun 0:00s 0 -  
Rule Tunisia 1989 only - Mar 26 0:00s 1:00 S  
Rule Tunisia 1990 only - May 1 0:00s 1:00 S  
Rule Tunisia 2005 only - May 1 0:00s 1:00 S  
Rule Tunisia 2005 only - Sep 30 1:00s 0 -  
Rule Tunisia 2006 2008 - Mar lastSun 2:00s 1:00 S  
Rule Tunisia 2006 2008 - Oct lastSun  
2:00s 0 -

# Shanks & Pottenger give 0:09:20 for Paris Mean Time; go with Howse's  
# more precise 0:09:21.  
# Shanks & Pottenger say the 1911 switch was on Mar 9; go with Howse's Mar 11.  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Tunis 0:40:44 - LMT 1881 May 12  
0:09:21 - PMT 1911 Mar 11 # Paris Mean Time  
1:00 Tunisia CE%ST

# Uganda  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Kampala 2:09:40 - LMT 1928 Jul  
3:00 - EAT 1930  
2:30 - BEAT 1948  
2:45 - BEAUT 1957  
3:00 - EAT

# Zambia  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Lusaka 1:53:08 - LMT 1903 Mar  
2:00 - CAT

# Zimbabwe  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Africa/Harare 2:04:12 - LMT 1903 Mar  
2:00 - CAT

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/africa  
No license file was found, but licenses were detected in source scan.

.\ " This file is in the public domain, so clarified as of

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/tzselect.8  
\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/zic.8

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/time2posix.3  
\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/date.1  
\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/newctime.3  
\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/zdump.8  
\*  
/opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/tzfile.5  
\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/newtzset.3  
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\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/sun/util/calendar/Era.java  
\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/sun/util/calendar/JulianCalendar.java  
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```

#!/usr/bin/perl -w

# Courtesy Ken Pizzini.

use strict;

#This file released to the public domain.

#Note: error checking is poor --- only trust the output if the input
#has been checked by zic.

my $contZone = "";
while (<>) {
    my $origline = $_;
    my @fields = ();
    while (s/^\s*((?:"[^"]*"|'[\s#]')+)//) {
        push @fields, $1;
    }
    next unless @fields;

    my $type = lc($fields[0]);
    if ($contZone) {
        @fields >= 3 or warn "bad continuation line";
        unshift @fields, '+', $contZone;
        $type = 'zone';
    }

    $contZone = "";
    if ($type eq 'zone') {
        # Zone NAME GMTOFF RULES/SAVE FORMAT [UNTIL]
        my $nfields = @fields;
        $nfields >= 5 or warn "bad zone line";
        if ($nfields > 6) {
            #this splice is optional, depending on one's preference
            #(one big date-time field, or componentized date and time):
            splice(@fields, 5, $nfields-5, "@fields[5..$nfields-1]");
        }
        $contZone = $fields[1]
    }
    if @fields > 5;
    } elsif ($type eq 'rule') {
        # Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
        @fields == 10 or warn "bad rule line";
    } elsif ($type eq 'link') {
        # Link LINK-FROM LINK-TO
        @fields == 3 or warn "bad link line";
    } elsif ($type eq 'leap') {
        # Leap YEAR MONTH DAY HH:MM:SS CORR R/S
        @fields == 7 or warn "bad leap line";
    }
}

```

```
} else {  
    warn "Fubar at input line $.: $origline";  
}  
print join("\t", @fields), "\n";  
}
```

Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/zoneinfo2tdf.pl
```

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```

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* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/sun/util/calendar/LocalGregorianCalendar.java
```

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/sun/util/calendar/ImmutableGregorianCalendar.java
```

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```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/date.c
No license file was found, but licenses were detected in source scan.
```

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 world time zone boundaries distributed under the  
 Zones of the United States</a> in the public domain.</li>  
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Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/tz-link.htm
No license file was found, but licenses were detected in source scan.
```

```
# <pre>
# This file is in the public domain, so clarified as of
# 2009-05-17 by Arthur David Olson.
# ISO 3166 alpha-2 country codes
#
# From Paul Eggert (2006-09-27):
#
# This file contains a table with the following columns:
# 1. ISO 3166-1 alpha-2 country code, current as of
# ISO 3166-1 Newsletter VI-1 (2007-09-21). See:
# <a href="http://www.iso.org/iso/en/prods-services/iso3166ma/index.html">
# ISO 3166 Maintenance agency (ISO 3166/MA)
# </a>.
# 2. The usual English name for the country,
# chosen so that alphabetic sorting of subsets produces helpful lists.
# This is not the same as the English name in the ISO 3166 tables.
```

```
#
# Columns are separated by a single tab.
# The table is sorted by country code.
#
# Lines beginning with `#' are comments.
#
# From Arthur David Olson (2011-08-17):
# Resynchronized today with the ISO 3166 site (adding SS for South Sudan).
#
#country-
#code country
name
AD Andorra
AE United Arab Emirates
AF Afghanistan
AG Antigua & Barbuda
AI Anguilla
AL Albania
AM Armenia
AO Angola
AQ Antarctica
AR Argentina
AS Samoa (American)
AT Austria
AU Australia
AW Aruba
AX Aaland Islands
AZ Azerbaijan
BA Bosnia & Herzegovina
BB Barbados
BD Bangladesh
BE Belgium
BF Burkina Faso
BG Bulgaria
BH Bahrain
BI Burundi
BJ Benin
BL St Barthelemy
BM Bermuda
BN Brunei
BO Bolivia
BQ Bonaire Sint Eustatius & Saba
BR Brazil
BS Bahamas
BT Bhutan
BV Bouvet Island
BW Botswana
BY Belarus
```

BZ Belize  
CA Canada  
CC Cocos (Keeling) Islands  
CD Congo (Dem. Rep.)  
CF Central African Rep.  
CG Congo (Rep.)  
CH Switzerland  
CI Cote d'Ivoire  
CK Cook Islands  
CL Chile  
CM Cameroon  
CN China  
CO Colombia  
CR Costa Rica  
CU Cuba  
CV Cape Verde  
CW Curacao  
CX Christmas Island  
CY Cyprus  
CZ Czech Republic  
DE Germany  
DJ Djibouti  
DK Denmark  
DM Dominica  
DO Dominican Republic  
DZ Algeria  
EC Ecuador  
EE Estonia  
EG Egypt  
EH Western Sahara  
ER Eritrea  
ES Spain  
ET Ethiopia  
FI Finland  
FJ Fiji  
FK Falkland Islands  
FM Micronesia  
FO Faroe  
Islands  
FR France  
GA Gabon  
GB Britain (UK)  
GD Grenada  
GE Georgia  
GF French Guiana  
GG Guernsey  
GH Ghana  
GI Gibraltar

GL Greenland  
GM Gambia  
GN Guinea  
GP Guadeloupe  
GQ Equatorial Guinea  
GR Greece  
GS South Georgia & the South Sandwich Islands  
GT Guatemala  
GU Guam  
GW Guinea-Bissau  
GY Guyana  
HK Hong Kong  
HM Heard Island & McDonald Islands  
HN Honduras  
HR Croatia  
HT Haiti  
HU Hungary  
ID Indonesia  
IE Ireland  
IL Israel  
IM Isle of Man  
IN India  
IO British Indian Ocean Territory  
IQ Iraq  
IR Iran  
IS Iceland  
IT Italy  
JE Jersey  
JM Jamaica  
JO Jordan  
JP Japan  
KE Kenya  
KG Kyrgyzstan  
KH Cambodia  
KI Kiribati  
KM Comoros  
KN St Kitts & Nevis  
KP Korea (North)  
KR Korea (South)  
KW Kuwait  
KY Cayman Islands  
KZ Kazakhstan  
LA Laos  
LB Lebanon  
LC St Lucia  
LI Liechtenstein  
LK Sri Lanka  
LR Liberia



LS Lesotho  
LT Lithuania  
LU Luxembourg  
LV Latvia  
LY Libya  
MA Morocco  
MC Monaco  
MD Moldova  
ME Montenegro  
MF St Martin (French part)  
MG Madagascar  
MH Marshall Islands  
MK Macedonia  
ML Mali  
MM Myanmar (Burma)  
MN Mongolia  
MO Macau  
MP Northern  
Mariana Islands  
MQ Martinique  
MR Mauritania  
MS Montserrat  
MT Malta  
MU Mauritius  
MV Maldives  
MW Malawi  
MX Mexico  
MY Malaysia  
MZ Mozambique  
NA Namibia  
NC New Caledonia  
NE Niger  
NF Norfolk Island  
NG Nigeria  
NI Nicaragua  
NL Netherlands  
NO Norway  
NP Nepal  
NR Nauru  
NU Niue  
NZ New Zealand  
OM Oman  
PA Panama  
PE Peru  
PF French Polynesia  
PG Papua New Guinea  
PH Philippines  
PK Pakistan

PL Poland  
PM St Pierre & Miquelon  
PN Pitcairn  
PR Puerto Rico  
PS Palestine  
PT Portugal  
PW Palau  
PY Paraguay  
QA Qatar  
RE Reunion  
RO Romania  
RS Serbia  
RU Russia  
RW Rwanda  
SA Saudi Arabia  
SB Solomon Islands  
SC Seychelles  
SD Sudan  
SE Sweden  
SG Singapore  
SH St Helena  
SI Slovenia  
SJ Svalbard & Jan Mayen  
SK Slovakia  
SL Sierra Leone  
SM San Marino  
SN Senegal  
SO Somalia  
SR Suriname  
SS South Sudan  
ST Sao Tome & Principe  
SV El Salvador  
SX Sint Maarten  
SY Syria  
SZ Swaziland  
TC Turks & Caicos Is  
TD Chad  
TF French Southern & Antarctic Lands  
TG Togo  
TH Thailand  
TJ Tajikistan  
TK Tokelau  
TL East Timor  
TM Turkmenistan  
TN Tunisia  
TO Tonga  
TR Turkey  
TT Trinidad

& Tobago  
TV Tuvalu  
TW Taiwan  
TZ Tanzania  
UA Ukraine  
UG Uganda  
UM US minor outlying islands  
US United States  
UY Uruguay  
UZ Uzbekistan  
VA Vatican City  
VC St Vincent  
VE Venezuela  
VG Virgin Islands (UK)  
VI Virgin Islands (US)  
VN Vietnam  
VU Vanuatu  
WF Wallis & Futuna  
WS Samoa (western)  
YE Yemen  
YT Mayotte  
ZA South Africa  
ZM Zambia  
ZW Zimbabwe

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/iso3166.tab

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# For companies who don't want to put time zone specification in

# their installation procedures. When users run date, they'll get the message.

# Also useful for the "comp.sources" version.

# Zone NAME GMTOFF RULES FORMAT

Zone Factory 0 - "Local time zone must be set--see zic manual page"

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/factory

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----- Outline -----

Time and date functions

Scope of the tz database

Names of time zone rule files

Time zone abbreviations

Calendrical issues

Time and time zones on Mars

----- Time and date functions -----

These time and date functions are upwards compatible with POSIX,  
an international standard for UNIX-like systems.

As of this writing, the current edition of POSIX is:

Standard for Information technology

-- Portable Operating System Interface (POSIX (R))  
-- System Interfaces  
IEEE Std 1003.1, 2004 Edition  
<<http://www.opengroup.org/online-pubs?DOC=7999959899>>  
<<http://www.opengroup.org/pubs/catalog/t041.htm>>

POSIX has the following properties and limitations.

\* In POSIX, time display in a process is controlled by the environment variable TZ. Unfortunately, the POSIX TZ string takes a form that is hard to

describe and is error-prone in practice.

Also, POSIX TZ strings can't deal with other (for example, Israeli) daylight saving time rules, or situations where more than two time zone abbreviations are used in an area.

The POSIX TZ string takes the following form:

```
stdoffset[dst[offset],date[/time],date[/time]]
```

where:

std and dst

are 3 or more characters specifying the standard and daylight saving time (DST) zone names.

Starting with POSIX.1-2001, std and dst may also be in a quoted form like "<UTC+10>"; this allows "+" and "-" in the names.

offset

is of the form `[-]hh:[mm[:ss]]' and specifies the offset west of UTC. The default DST offset is one hour ahead of standard time.

date[/time],date[/time]

specifies the beginning and end of DST. If this is absent, the system supplies its own rules for DST, and these can differ from year to year; typically US DST rules are used.

time

takes the form `hh:[mm[:ss]]' and defaults to 02:00.

date

takes one of

the following forms:

Jn (1<=n<=365)

origin-1 day number not counting February 29

n (0<=n<=365)

origin-0 day number counting February 29 if present

Mm.n.d (0[Sunday]<=d<=6[Saturday], 1<=n<=5, 1<=m<=12)

for the dth day of week n of month m of the year,

where week 1 is the first week in which day d appears,

and `5' stands for the last week in which day d appears (which may be either the 4th or 5th week).

Here is an example POSIX TZ string, for US Pacific time using rules appropriate from 1987 through 2006:

```
TZ='PST8PDT,M4.1.0/02:00,M10.5.0/02:00'
```

This POSIX TZ string is hard to remember, and mishandles time stamps before 1987 and after 2006. With this package you can use this instead:

```
TZ='America/Los_Angeles'
```

\* POSIX does not define the exact meaning of TZ values like "EST5EDT". Typically the current US DST rules are used to interpret such values, but this means that the US DST rules are compiled into each program that does time conversion. This means that when US time conversion rules change (as in the United States in 1987), all programs that do time conversion must be recompiled to ensure proper results.

\* In POSIX, there's no tamper-proof way for a process to learn the system's best idea of local wall clock. (This is important for applications that an administrator wants used only at certain times--without regard to whether the user has fiddled the "TZ" environment variable. While an administrator can "do everything in UTC" to get around the problem, doing so is inconvenient and precludes handling daylight saving time shifts--as might be required to limit phone calls to off-peak hours.)

\* POSIX requires that systems ignore leap seconds.

These are the extensions that have been made to the POSIX functions:

\* The "TZ" environment variable is used in generating the name of a file from which time zone information is read (or is interpreted a la POSIX); "TZ" is no longer constrained to be a three-letter time zone name followed by a number of hours and an optional three-letter daylight time zone name. The daylight saving time rules to be used for a particular time zone are encoded in the time zone file; the format of the file allows U.S., Australian, and other rules to be encoded, and allows for situations where more than two time zone abbreviations are used.

It was recognized that allowing the "TZ" environment variable to take on values such as "America/New\_York" might cause "old" programs

(that expect "TZ" to have a certain form) to operate incorrectly; consideration was given to using some other environment variable (for example, "TIMEZONE") to hold the string used to generate the time zone information file name. In the end, however, it was decided to continue using "TZ": it is widely used for time zone purposes; separately maintaining both "TZ" and "TIMEZONE" seemed a nuisance; and systems where "new" forms of "TZ" might cause problems can simply use TZ values such as "EST5EDT" which can be used both by "new" programs (a la POSIX) and "old" programs (as zone names and offsets).

\* To handle places where more than two time zone abbreviations are used, the functions "localtime" and "gmtime" set tzname[tmp->tm\_isdst] (where "tmp" is the value the function returns) to the time zone abbreviation to be used. This differs from POSIX, where the elements of tzname are only changed as a result of calls to tzset.

\* Since the "TZ" environment variable can now be used to control time conversion, the "daylight" and "timezone" variables are no longer needed. (These variables are defined and set by "tzset"; however, their values will not be used by "localtime.")

\* The "localtime" function has been set up to deliver correct results for near-minimum or near-maximum time\_t values. (A comment in the source code tells how to get compatibly wrong results).

\* A function "tzsetwall" has been added to arrange for the system's best approximation to local wall clock time to be delivered by subsequent calls to "localtime." Source code for portable applications that "must" run on local wall clock time should call "tzsetwall();" if such code is moved to "old" systems that don't provide tzsetwall, you won't be able to generate an executable program. (These time zone functions also arrange for local wall clock time to be used if tzset is called--directly or indirectly--and there's no "TZ" environment variable; portable applications should not, however, rely on this behavior since it's not the way SVR2 systems behave.)

\* These functions can account for leap seconds, thanks to Bradley White.

Points of interest to folks with other systems:

\* This package is already part of many POSIX-compliant hosts, including BSD, HP, Linux, Network Appliance, SCO, SGI, and Sun. On such hosts, the primary use of this package is to update obsolete time zone rule tables.

To do this, you may need to compile the time zone compiler

`zic' supplied with  
this package instead of using the system `zic',  
since the format of zic's input changed slightly in late 1994,  
and many vendors still do not support the new input format.

\* The UNIX Version 7 "timezone" function is not present in this package;  
it's impossible to reliably map timezone's arguments (a "minutes west  
of GMT" value and a "daylight saving time in effect" flag) to a  
time zone abbreviation, and we refuse to guess.  
Programs that in the past used the timezone function may now examine  
tzname[localtime(&clock)->tm\_isdst] to learn the correct time  
zone abbreviation to use. Alternatively, use  
localtime(&clock)->tm\_zone if this has been enabled.

\* The 4.2BSD gettimeofday function is not used in this package.  
This formerly let users obtain the current UTC offset and DST flag,  
but this functionality was removed in later versions of BSD.

\* In SVR2, time conversion fails for near-minimum or near-maximum  
time\_t values when doing conversions for places that don't use UTC.  
This  
package takes care to do these conversions correctly.

The functions that are conditionally compiled if STD\_INSPIRED is defined  
should, at this point, be looked on primarily as food for thought. They are  
not in any sense "standard compatible"--some are not, in fact, specified in  
\*any\* standard. They do, however, represent responses of various authors to  
standardization proposals.

Other time conversion proposals, in particular the one developed by folks at  
Hewlett Packard, offer a wider selection of functions that provide capabilities  
beyond those provided here. The absence of such functions from this package  
is not meant to discourage the development, standardization, or use of such  
functions. Rather, their absence reflects the decision to make this package  
contain valid extensions to POSIX, to ensure its broad acceptability. If  
more powerful time conversion functions can be standardized, so much the  
better.

----- Scope of the tz database -----

The tz database attempts to  
record the history and predicted future of  
all computer-based clocks that track civil time. To represent this  
data, the world is partitioned into regions whose clocks all agree  
about time stamps that occur after the somewhat-arbitrary cutoff point  
of the POSIX Epoch (1970-01-01 00:00:00 UTC). For each such region,  
the database records all known clock transitions, and labels the region



with a notable location.

Clock transitions before 1970 are recorded for each such location, because most POSIX-compatible systems support negative time stamps and could misbehave if data were omitted for pre-1970 transitions.

However, the database is not designed for and does not suffice for applications requiring accurate handling of all past times everywhere, as it would take far too much effort and guesswork to record all details of pre-1970 civil timekeeping.

As noted in the README file, the tz database is not authoritative (particularly not for pre-1970 time stamps), and it surely has errors.

Corrections

are welcome and encouraged. Users requiring authoritative data should consult national standards bodies and the references cited in the database's comments.

----- Names of time zone rule files -----

The time zone rule file naming conventions attempt to strike a balance among the following goals:

- \* Uniquely identify every national region where clocks have all agreed since 1970. This is essential for the intended use: static clocks keeping local civil time.
- \* Indicate to humans as to where that region is. This simplifies use.
- \* Be robust in the presence of political changes. This reduces the number of updates and backward-compatibility hacks. For example, names of countries are ordinarily not used, to avoid incompatibilities when countries change their name (e.g. Zaire->Congo) or when locations change countries (e.g. Hong Kong from UK colony to China).
- \* Be portable to a wide variety of implementations. This promotes use of the technology.
- \* Use a consistent naming convention over the entire world. This simplifies both use and maintenance.

This naming convention is not intended for use by inexperienced users to select TZ values by themselves (though they can of course examine and reuse existing settings). Distributors should provide documentation and/or a simple selection interface that explains the names; see the 'tzselect' program supplied with this distribution for one example.

Names normally have the form AREA/LOCATION, where AREA is the name of a continent or ocean, and LOCATION is the name of a specific location within that region. North and South America share the same area, `America'. Typical names are `Africa/Cairo', `America/New\_York', and `Pacific/Honolulu'.

Here are the general rules used for choosing location names, in decreasing order of importance:

Use only valid POSIX file name components (i.e., the parts of names other than `/'). Within a file name component, use only ASCII letters, `.',

`-' and `\_' . Do not use digits, as that might create an ambiguity with POSIX TZ strings. A file name component must not exceed 14 characters or start with `-' . E.g., prefer `Brunei' to `Bandar\_Seri\_Begawan'.

Include at least one location per time zone rule set per country.

One such location is enough. Use ISO 3166 (see the file iso3166.tab) to help decide whether something is a country. However, uninhabited ISO 3166 regions like Bouvet Island do not need locations, since local time is not defined there.

If all the clocks in a country's region have agreed since 1970, don't bother to include more than one location even if subregions' clocks disagreed before 1970.

Otherwise these tables would become annoyingly large.

If a name is ambiguous, use a less ambiguous alternative; e.g. many cities are named San Jose and Georgetown, so prefer `Costa\_Rica' to `San\_Jose' and `Guyana' to `Georgetown'.

Keep locations compact. Use cities or small islands, not countries or

regions, so that any future time zone changes do not split locations into different time zones. E.g. prefer `Paris' to `France', since France has had multiple time zones.

Use mainstream English spelling, e.g. prefer `Rome' to `Roma', and prefer `Athens' to the true name (which uses Greek letters).

The POSIX file name restrictions encourage this rule.

Use the most populous among locations in a country's time zone, e.g. prefer `Shanghai' to `Beijing'. Among locations with similar populations, pick the best-known location, e.g. prefer `Rome' to `Milan'.

Use the singular form, e.g. prefer `Canary' to `Canaries'.

Omit common suffixes like `\_Islands' and `\_City', unless that would lead to ambiguity. E.g. prefer `Cayman' to `Cayman\_Islands' and `Guatemala' to `Guatemala\_City', but prefer `Mexico\_City' to `Mexico' because the country of Mexico has several time zones.

Use ` ` to represent a space.

Omit `.` from abbreviations in names, e.g. prefer `St\_Helena` to  
`St.\_Helena`.

Do not change established names if they only marginally violate the above rules. For example, don't change the existing name `Rome` to `Milan` merely because Milan's population has grown to be somewhat greater than Rome's.

If a name is changed, put its old spelling in the `backward` file.

The file `zone.tab` lists the geographical locations used to name time zone rule files. It is intended to be an exhaustive list of canonical names for geographic regions.

Older versions of this package used a different naming scheme, and these older names are still supported.

See the file `backward` for most of these older names (e.g. `US/Eastern` instead of `America/New\_York`).

The other old-fashioned names still supported are `WET`, `CET`, `MET`, and `EET` (see the file `europe`).

----- Time zone abbreviations -----

When this package is installed, it generates time zone abbreviations like `EST` to be compatible with human tradition and POSIX.

Here are the general rules used for choosing time zone abbreviations, in decreasing order of importance:

Use abbreviations that consist of three or more ASCII letters.

Previous editions of this database also used characters like ` ` and `?`, but these characters have a special meaning to the shell and cause commands like  
set `date`

to have unexpected effects.

Previous editions of this rule required upper-case letters, but the Congressman who introduced Chamorro Standard Time preferred "ChST", so the rule has been relaxed.

This rule guarantees that all abbreviations could have been specified by a POSIX TZ string. POSIX requires at least three characters for an abbreviation. POSIX through 2000 says that an abbreviation cannot start with `:`, and cannot contain `:`, ` `, `+`, NUL, or a digit. POSIX from 2001 on changes this rule to say that an abbreviation can contain only `:`, `+`,

and alphanumeric characters from the portable character set in the current locale.

To be portable to both sets of rules, an abbreviation must therefore use only ASCII letters.

Use abbreviations that are in common use among English-speakers, e.g. `EST' for Eastern Standard Time in North America.

We assume that applications translate them to other languages as part of the normal localization process; for example, a French application might translate `EST' to `HNE'.

For zones whose times are taken from a city's longitude, use the traditional xMT notation, e.g. `PMT' for Paris Mean Time.

The only name like this in current use is `GMT'.

If there is no common English abbreviation, abbreviate the English translation of the usual phrase used by native speakers.

If this is not available or is a phrase mentioning the country (e.g. ``Cape Verde Time"), then:

When a country has a single or principal time zone region, append `T' to the country's ISO code, e.g. `CVT' for Cape Verde Time. For summer time append `ST'; for double summer time append `DST'; etc.

When a country has multiple time zones, take the first three letters of an English place name identifying each zone and then append `T', `ST', etc. as before; e.g. `VLAST' for VLAdivostok Summer Time.

Use UTC (with time zone abbreviation "zzz") for locations while uninhabited. The "zzz" mnemonic is that these locations are, in some sense, asleep.

Application writers should note that these abbreviations are ambiguous in practice: e.g. `EST' has a different meaning in Australia than it does in the United States. In new applications, it's often better to use numeric UTC offsets like `-0500' instead of time zone abbreviations like `EST'; this avoids the ambiguity.

----- Calendrical issues -----

Calendrical issues are a bit out of scope for a time zone database, but they indicate the sort of problems that we would run into if we extended the time zone database further into the past. An excellent resource in this area is Nachum Dershowitz and Edward

M. Reingold,  
<<http://emr.cs.iit.edu/home/reingold/calendar-book/third-edition/>>  
Calendrical Calculations: Third Edition  
</a>, Cambridge University Press (2008). Other information and  
sources are given below. They sometimes disagree.

#### France

Gregorian calendar adopted 1582-12-20.  
French Revolutionary calendar used 1793-11-24 through 1805-12-31,  
and (in Paris only) 1871-05-06 through 1871-05-23.

#### Russia

From Chris Carrier (1996-12-02):  
On 1929-10-01 the Soviet Union instituted an "Eternal Calendar"  
with 30-day months plus 5 holidays, with a 5-day week.  
On 1931-12-01 it changed to a 6-day week; in 1934 it reverted to the  
Gregorian calendar while retaining the 6-day week; on 1940-06-27 it  
reverted to the 7-day week. With the 6-day week the usual days  
off were the 6th, 12th, 18th, 24th and 30th of the month.  
(Source: Eviatar Zerubavel, "The Seven Day Circle")

Mark Brader reported a similar story in "The Book of Calendars", edited  
by Frank Parise (1982, Facts on File,  
ISBN 0-8719-6467-8), page 377. But:

From: Petteri Sulonen (via Usenet)  
Date: 14 Jan 1999 00:00:00 GMT  
...

If your source is correct, how come documents between 1929 -- 1940 were  
still dated using the conventional, Gregorian calendar?

I can post a scan of a document dated December 1, 1934, signed by  
Yenukidze, the secretary, on behalf of Kalinin, the President of the  
Executive Committee of the Supreme Soviet, if you like.

#### Sweden (and Finland)

From: Mark Brader  
<[news:1996Jul6.012937.29190@sq.com](mailto:news:1996Jul6.012937.29190@sq.com)>  
Subject: Re: Gregorian reform -- a part of locale?

</a>

Date: 1996-07-06

In 1700, Denmark made the transition from Julian to Gregorian. Sweden decided to \*start\* a transition in 1700 as well, but rather than have one of those unsightly calendar gaps :-), they simply decreed that the next leap year after 1696 would be in 1744 -- putting the whole country on a calendar different from both Julian and Gregorian for a period of 40 years.

However, in 1704 something went wrong and the plan was not carried through; they did, after all, have a leap year that year. And one in 1708. In 1712 they gave it up and went back to Julian, putting 30 days in February that year!...

Then in 1753, Sweden made the transition to Gregorian in the usual manner, getting there only 13 years behind the original schedule.

(A previous posting of this story was challenged, and Swedish readers produced the following references to support it: "Tiderakning och historia" by Natanael Beckman (1924) and "Tid, en bok om tiderakning och kalendervasen" by Lars-Olof Lode'n (no date was given).)

Grotefend's data

From: "Michael Palmer" [with one obvious typo fixed]  
Subject: Re: Gregorian Calendar (was Re: Another FHC related question  
Newsgroups: soc.genealogy.german  
Date: Tue, 9 Feb 1999 02:32:48 -800

...

The following is a(n incomplete) listing, arranged chronologically, of European states, with the date they converted from the Julian to the Gregorian calendar:

04/15 Oct 1582 - Italy (with exceptions), Spain, Portugal, Poland (Roman Catholics and Danzig only)

09/20 Dec 1582 - France, Lorraine

21 Dec 1582/

01 Jan 1583 - Holland, Brabant, Flanders, Hennegau

10/21 Feb 1583 - bishopric of Liege (L"uttich)

13/24 Feb 1583 - bishopric of Augsburg

04/15 Oct 1583 - electorate of Trier

05/16 Oct 1583 - Bavaria, bishoprics of Freising, Eichstedt, Regensburg, Salzburg, Brixen

13/24 Oct 1583 - Austrian Oberelsass and Breisgau  
20/31 Oct 1583 - bishopric of Basel  
02/13 Nov 1583 - duchy of J"ulich-Berg  
02/13 Nov 1583 - electorate and city of K"oln  
04/15 Nov 1583 - bishopric of W"urzburg  
11/22 Nov 1583 - electorate of Mainz  
16/27 Nov 1583 - bishopric of Strassburg and the margraviate of Baden  
17/28 Nov 1583 - bishopric of M"unster and duchy of Cleve  
14/25 Dec 1583 - Steiermark

06/17 Jan 1584 - Austria and Bohemia  
11/22 Jan 1584 - Luzern, Uri, Schwyz, Zug, Freiburg, Solothurn  
12/23 Jan 1584 - Silesia and the Lausitz  
22 Jan/  
02 Feb 1584 - Hungary  
(legally on 21 Oct 1587)  
Jun 1584 - Unterwalden  
01/12 Jul 1584 - duchy of Westfalen

16/27 Jun 1585 - bishopric of Paderborn

14/25 Dec 1590 - Transylvania

22 Aug/  
02 Sep 1612 - duchy of Prussia

13/24 Dec 1614 - Pfalz-Neuburg

1617 - duchy of Kurland (reverted to the Julian calendar in  
1796)

1624 - bishopric of Osnabr"uck

1630 - bishopric of Minden

15/26 Mar 1631 - bishopric of Hildesheim

1655 - Kanton Wallis

05/16 Feb 1682 - city of Strassburg

18 Feb/  
01 Mar 1700 - Protestant Germany (including Swedish possessions in  
Germany), Denmark, Norway

30 Jun/  
12 Jul 1700 - Gelderland, Zutphen

10 Nov/  
12 Dec 1700 - Utrecht, Overijssel

31 Dec 1700/

12 Jan 1701 - Friesland, Groningen, Z"urich, Bern, Basel, Geneva,  
Turgau, and Schaffhausen

1724 - Glarus, Appenzell, and the city of St. Gallen

01 Jan 1750 - Pisa and Florence

02/14 Sep 1752 - Great Britain

17 Feb/

01 Mar 1753 - Sweden

1760-1812 - Graub"unden

The Russian empire (including Finland and the Baltic states) did not convert to the Gregorian calendar until the Soviet revolution of 1917.

Source: H. Grotefend, *\_Taschenbuch der Zeitrechnung des deutschen Mittelalters und der Neuzeit\_*, herausgegeben von Dr. O. Grotefend (Hannover: Hahnsche Buchhandlung, 1941), pp. 26-28.

----- Time and time zones on Mars -----

Some people have adjusted their work schedules to fit Mars time. Dozens of special Mars watches were built for Jet Propulsion Laboratory workers who kept Mars time during the Mars Exploration Rovers mission (2004). These timepieces look like normal Seikos and Citizens but use Mars seconds rather than terrestrial seconds.

A Mars solar day is called a "sol" and has a mean period equal to about 24 hours 39 minutes 35.244 seconds in terrestrial time. It is divided into a conventional 24-hour clock, so each Mars second equals about 1.02749125 terrestrial seconds.

The prime meridian of Mars goes through the center of the crater Airy-0, named in honor of the British astronomer who built the Greenwich telescope that defines Earth's prime meridian. Mean solar time on the Mars prime meridian is called Mars Coordinated Time (MTC).

Each landed mission on Mars has adopted a different reference for solar time keeping, so there is no real standard for Mars time zones. For example, the Mars Exploration Rover project (2004) defined two time zones "Local Solar Time A" and "Local Solar Time B" for its two missions, each zone designed so that its time equals local true solar



time at approximately the middle of the nominal mission. Such a "time zone" is not particularly suited for any application other than the mission itself.

Many calendars have been proposed for Mars, but none have achieved wide acceptance. Astronomers often use Mars Sol Date (MSD) which is a sequential count of Mars solar days elapsed since about 1873-12-29 12:00 GMT.

The tz database does not currently support Mars time, but it is documented here in the hopes that support will be added eventually.

Sources:

Michael Allison and Robert Schmunk,  
"Technical Notes on Mars Solar Time as Adopted by the Mars24 Sunclock"  
<<http://www.giss.nasa.gov/tools/mars24/help/notes.html>> (2004-07-30).

Jia-Rui Chong, "Workdays Fit for a Martian", Los Angeles Times  
(2004-01-14), pp A1, A20-A21.

Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/Theory  
No license file was found, but licenses were detected in source scan.
```

```
#  
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# Foundation,  
# Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA.  
#
```

# Please contact Sun Microsystems, Inc., 4150 Network Circle, Santa Clara,  
# CA 95054 USA or visit www.sun.com if you need additional information or  
# have any questions.  
#  
# JDK 1.1.x compatible time zone IDs  
#

Link Australia/Darwin ACT  
Link Australia/Sydney AET  
Link America/Argentina/Buenos\_Aires AGT  
Link Africa/Cairo ART  
Link America/Anchorage AST  
Link America/Sao\_Paulo BET  
Link Asia/Dhaka BST  
Link Africa/Harare CAT  
Link America/St\_Johns CNT  
Link America/Chicago CST  
Link Asia/Shanghai CTT  
Link Africa/Addis\_Ababa EAT  
Link Europe/Paris ECT  
Link America/New\_York EST  
Link Pacific/Honolulu HST  
Link America/Indianapolis IET  
Link Asia/Calcutta IST  
Link Asia/Tokyo JST  
Link Pacific/Apia MIT  
Link America/Denver MST  
Link Asia/Yerevan NET  
Link Pacific/Auckland NST  
Link Asia/Karachi PLT  
Link America/Phoenix PNT  
Link America/Puerto\_Rico PRT  
Link America/Los\_Angeles PST  
Link Pacific/Guadalcanal SST  
Link Asia/Saigon VST

#  
Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule SystemV min 1973 - Apr lastSun 2:00 1:00 D  
Rule SystemV min 1973 - Oct lastSun 2:00 0 S  
Rule SystemV 1974 only - Jan 6 2:00 1:00 D  
Rule SystemV 1974 only - Nov lastSun 2:00 0 S  
Rule SystemV 1975 only - Feb 23 2:00 1:00 D  
Rule SystemV 1975 only - Oct lastSun 2:00 0 S  
Rule SystemV 1976 max - Apr lastSun 2:00 1:00 D  
Rule SystemV 1976 max - Oct lastSun 2:00 0 S

# Zone NAME GMTOFF RULES/SAVE FORMAT [UNTIL]

Zone SystemV/AST4ADT -4:00 SystemV A%sT  
Zone SystemV/EST5EDT -5:00 SystemV E%sT  
Zone SystemV/CST6CDT -6:00 SystemV C%sT  
Zone SystemV/MST7MDT -7:00 SystemV M%sT  
Zone SystemV/PST8PDT -8:00 SystemV P%sT  
Zone SystemV/YST9YDT -9:00 SystemV Y%sT  
Zone SystemV/AST4 -4:00 - AST  
Zone SystemV/EST5 -5:00 - EST  
Zone SystemV/CST6 -6:00 - CST  
Zone SystemV/MST7 -7:00 - MST  
Zone SystemV/PST8 -8:00 - PST  
Zone SystemV/YST9 -9:00 - YST  
Zone SystemV/HST10 -10:00 - HST

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/tzdata\_jdk/jdk11\_backward  
No license file was found, but licenses were detected in source scan.

# <pre>

# This file is in the public domain, so clarified as of  
# 2009-05-17 by Arthur David Olson.

# From Arthur David Olson (1989-04-05):  
# On 1989-04-05, the U. S. House of Representatives passed (238-154) a bill  
# establishing "Pacific Presidential Election Time"; it was not acted on  
# by the Senate or signed into law by the President.  
# You might want to change the "PE" (Presidential Election) below to  
# "Q" (Quadrennial) to maintain three-character zone abbreviations.  
# If you're really conservative, you might want to change it to "D".  
# Avoid "L" (Leap Year), which won't be true in 2100.

# If Presidential Election Time is ever established, replace "XXXX" below  
# with the year the law takes effect and uncomment the "##" lines.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
## Rule Twilite XXXX max - Apr Sun>=1 2:00 1:00 D  
## Rule Twilite XXXX max uspres Oct lastSun 2:00 1:00 PE  
## Rule Twilite XXXX max uspres Nov Sun>=7 2:00 0 S  
##  
Rule Twilite XXXX max nonpres Oct lastSun 2:00 0 S

# Zone NAME GMTOFF RULES/SAVE FORMAT [UNTIL]  
## Zone America/Los\_Angeles-PET -8:00 US P%sT XXXX  
## -8:00 Twilite P%sT

# For now...

Link America/Los\_Angeles US/Pacific-New ##

Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/pacificnew
```

No license file was found, but licenses were detected in source scan.

```
# <pre>
```

```
# This file is in the public domain, so clarified as of
```

```
# 2009-05-17 by Arthur David Olson.
```

```
# So much for footnotes about Saudi Arabia.
```

```
# Apparent noon times below are for Riyadh; your mileage will vary.
```

```
# Times were computed using formulas in the U.S. Naval Observatory's
```

```
# Almanac for Computers 1987; the formulas "will give EqT to an accuracy of
```

```
# [plus or minus two] seconds during the current year."
```

```
#
```

```
# Rounding to the nearest five seconds results in fewer than
```

```
# 256 different "time types"--a limit that's faced because time types are
```

```
# stored on disk as unsigned chars.
```

```
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
```

```
Rule sol87 1987 only - Jan 1 12:03:20s -0:03:20 -
```

```
Rule sol87 1987 only - Jan 2 12:03:50s -0:03:50 -
```

```
Rule sol87 1987 only - Jan 3 12:04:15s -0:04:15 -
```

```
Rule sol87 1987 only - Jan 4 12:04:45s -0:04:45 -
```

```
Rule sol87 1987 only - Jan 5 12:05:10s -0:05:10 -
```

```
Rule sol87 1987 only - Jan 6 12:05:40s -0:05:40
```

```
-
```

```
Rule sol87 1987 only - Jan 7 12:06:05s -0:06:05 -
```

```
Rule sol87 1987 only - Jan 8 12:06:30s -0:06:30 -
```

```
Rule sol87 1987 only - Jan 9 12:06:55s -0:06:55 -
```

```
Rule sol87 1987 only - Jan 10 12:07:20s -0:07:20 -
```

```
Rule sol87 1987 only - Jan 11 12:07:45s -0:07:45 -
```

```
Rule sol87 1987 only - Jan 12 12:08:10s -0:08:10 -
```

```
Rule sol87 1987 only - Jan 13 12:08:30s -0:08:30 -
```

```
Rule sol87 1987 only - Jan 14 12:08:55s -0:08:55 -
```

```
Rule sol87 1987 only - Jan 15 12:09:15s -0:09:15 -
```

```
Rule sol87 1987 only - Jan 16 12:09:35s -0:09:35 -
```

```
Rule sol87 1987 only - Jan 17 12:09:55s -0:09:55 -
```

```
Rule sol87 1987 only - Jan 18 12:10:15s -0:10:15 -
```

```
Rule sol87 1987 only - Jan 19 12:10:35s -0:10:35 -
```

```
Rule sol87 1987 only - Jan 20 12:10:55s -0:10:55 -
```

```
Rule sol87 1987 only - Jan 21 12:11:10s -0:11:10 -
```

```
Rule sol87 1987 only - Jan 22 12:11:30s -0:11:30 -
```

```
Rule sol87 1987 only - Jan 23 12:11:45s -0:11:45 -
```

```
Rule sol87 1987 only - Jan 24 12:12:00s -0:12:00 -
```

```
Rule sol87 1987 only - Jan 25 12:12:15s -0:12:15 -
```

```
Rule sol87 1987 only - Jan 26 12:12:30s
```

-0:12:30 -

Rule sol87 1987 only - Jan 27 12:12:40s -0:12:40 -  
Rule sol87 1987 only - Jan 28 12:12:55s -0:12:55 -  
Rule sol87 1987 only - Jan 29 12:13:05s -0:13:05 -  
Rule sol87 1987 only - Jan 30 12:13:15s -0:13:15 -  
Rule sol87 1987 only - Jan 31 12:13:25s -0:13:25 -  
Rule sol87 1987 only - Feb 1 12:13:35s -0:13:35 -  
Rule sol87 1987 only - Feb 2 12:13:40s -0:13:40 -  
Rule sol87 1987 only - Feb 3 12:13:50s -0:13:50 -  
Rule sol87 1987 only - Feb 4 12:13:55s -0:13:55 -  
Rule sol87 1987 only - Feb 5 12:14:00s -0:14:00 -  
Rule sol87 1987 only - Feb 6 12:14:05s -0:14:05 -  
Rule sol87 1987 only - Feb 7 12:14:10s -0:14:10 -  
Rule sol87 1987 only - Feb 8 12:14:10s -0:14:10 -  
Rule sol87 1987 only - Feb 9 12:14:15s -0:14:15 -  
Rule sol87 1987 only - Feb 10 12:14:15s -0:14:15 -  
Rule sol87 1987 only - Feb 11 12:14:15s -0:14:15 -  
Rule sol87 1987 only - Feb 12 12:14:15s -0:14:15 -  
Rule sol87 1987 only - Feb 13 12:14:15s -0:14:15 -  
Rule sol87 1987 only - Feb 14 12:14:15s -0:14:15 -  
Rule sol87 1987 only - Feb 15 12:14:10s

-0:14:10 -

Rule sol87 1987 only - Feb 16 12:14:10s -0:14:10 -  
Rule sol87 1987 only - Feb 17 12:14:05s -0:14:05 -  
Rule sol87 1987 only - Feb 18 12:14:00s -0:14:00 -  
Rule sol87 1987 only - Feb 19 12:13:55s -0:13:55 -  
Rule sol87 1987 only - Feb 20 12:13:50s -0:13:50 -  
Rule sol87 1987 only - Feb 21 12:13:45s -0:13:45 -  
Rule sol87 1987 only - Feb 22 12:13:35s -0:13:35 -  
Rule sol87 1987 only - Feb 23 12:13:30s -0:13:30 -  
Rule sol87 1987 only - Feb 24 12:13:20s -0:13:20 -  
Rule sol87 1987 only - Feb 25 12:13:10s -0:13:10 -  
Rule sol87 1987 only - Feb 26 12:13:00s -0:13:00 -  
Rule sol87 1987 only - Feb 27 12:12:50s -0:12:50 -  
Rule sol87 1987 only - Feb 28 12:12:40s -0:12:40 -  
Rule sol87 1987 only - Mar 1 12:12:30s -0:12:30 -  
Rule sol87 1987 only - Mar 2 12:12:20s -0:12:20 -  
Rule sol87 1987 only - Mar 3 12:12:05s -0:12:05 -  
Rule sol87 1987 only - Mar 4 12:11:55s -0:11:55 -  
Rule sol87 1987 only - Mar 5 12:11:40s -0:11:40 -  
Rule sol87 1987 only - Mar 6 12:11:25s -0:11:25 -  
Rule sol87 1987 only - Mar 7 12:11:15s

-0:11:15 -

Rule sol87 1987 only - Mar 8 12:11:00s -0:11:00 -  
Rule sol87 1987 only - Mar 9 12:10:45s -0:10:45 -  
Rule sol87 1987 only - Mar 10 12:10:30s -0:10:30 -  
Rule sol87 1987 only - Mar 11 12:10:15s -0:10:15 -  
Rule sol87 1987 only - Mar 12 12:09:55s -0:09:55 -

Rule sol87 1987 only - Mar 13 12:09:40s -0:09:40 -  
Rule sol87 1987 only - Mar 14 12:09:25s -0:09:25 -  
Rule sol87 1987 only - Mar 15 12:09:10s -0:09:10 -  
Rule sol87 1987 only - Mar 16 12:08:50s -0:08:50 -  
Rule sol87 1987 only - Mar 17 12:08:35s -0:08:35 -  
Rule sol87 1987 only - Mar 18 12:08:15s -0:08:15 -  
Rule sol87 1987 only - Mar 19 12:08:00s -0:08:00 -  
Rule sol87 1987 only - Mar 20 12:07:40s -0:07:40 -  
Rule sol87 1987 only - Mar 21 12:07:25s -0:07:25 -  
Rule sol87 1987 only - Mar 22 12:07:05s -0:07:05 -  
Rule sol87 1987 only - Mar 23 12:06:50s -0:06:50 -  
Rule sol87 1987 only - Mar 24 12:06:30s -0:06:30 -  
Rule sol87 1987 only - Mar 25 12:06:10s -0:06:10 -  
Rule sol87 1987 only - Mar 26 12:05:55s  
-0:05:55 -  
Rule sol87 1987 only - Mar 27 12:05:35s -0:05:35 -  
Rule sol87 1987 only - Mar 28 12:05:15s -0:05:15 -  
Rule sol87 1987 only - Mar 29 12:05:00s -0:05:00 -  
Rule sol87 1987 only - Mar 30 12:04:40s -0:04:40 -  
Rule sol87 1987 only - Mar 31 12:04:25s -0:04:25 -  
Rule sol87 1987 only - Apr 1 12:04:05s -0:04:05 -  
Rule sol87 1987 only - Apr 2 12:03:45s -0:03:45 -  
Rule sol87 1987 only - Apr 3 12:03:30s -0:03:30 -  
Rule sol87 1987 only - Apr 4 12:03:10s -0:03:10 -  
Rule sol87 1987 only - Apr 5 12:02:55s -0:02:55 -  
Rule sol87 1987 only - Apr 6 12:02:35s -0:02:35 -  
Rule sol87 1987 only - Apr 7 12:02:20s -0:02:20 -  
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# Riyadh is at about 46 degrees 46 minutes East: 3 hrs, 7 mins, 4 secs

# Before and after 1987, we'll operate on local mean solar time.

# Zone NAME GMTOFF RULES/SAVE FORMAT [UNTIL]

Zone Asia/Riyadh87 3:07:04 - zzz 1987

3:07:04 sol87 zzz 1988

3:07:04 - zzz

# For backward compatibility...

Link Asia/Riyadh87 Mideast/Riyadh87

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/solar87

No license file was found, but licenses were detected in source scan.

# <pre>

# This file is in the public domain, so clarified as of

# 2009-05-17 by Arthur David Olson.

# This file provides links between current names for time zones

# and their old names. Many names changed in late 1993.

Link Africa/Asmara Africa/Asmera

Link Africa/Bamako Africa/Timbuktu

Link America/Argentina/Catamarca America/Argentina/ComodRivadavia

Link America/Adak America/Atka  
Link America/Argentina/Buenos\_Aires America/Buenos\_Aires  
Link America/Argentina/Catamarca America/Catamarca  
Link America/Atikokan America/Coral\_Harbour  
Link America/Argentina/Cordoba America/Cordoba  
Link America/Tijuana America/Ensenada  
Link America/Indiana/Indianapolis America/Fort\_Wayne  
Link America/Indiana/Indianapolis America/Indianapolis  
Link America/Argentina/Jujuy America/Jujuy  
Link America/Indiana/Knox America/Knox\_IN  
Link America/Kentucky/Louisville America/Louisville  
Link America/Argentina/Mendoza America/Mendoza  
Link America/Rio\_Branco America/Porto\_Acre  
Link America/Argentina/Cordoba America/Rosario  
Link America/St\_Thomas America/Virgin  
Link Asia/Ashgabat Asia/Ashkhabad  
Link Asia/Chongqing Asia/Chungking  
Link Asia/Dhaka Asia/Dacca  
Link Asia/Kathmandu Asia/Katmandu  
Link Asia/Kolkata Asia/Calcutta  
Link Asia/Macau Asia/Macao  
Link Asia/Jerusalem Asia/Tel\_Aviv  
Link Asia/Ho\_Chi\_Minh Asia/Saigon  
Link Asia/Thimphu Asia/Thimbu  
Link Asia/Makassar Asia/Ujung\_Pandang  
Link Asia/Ulaanbaatar Asia/Ulan\_Bator  
Link Atlantic/Faroe Atlantic/Faeroe  
Link Europe/Oslo Atlantic/Jan\_Mayen  
Link Australia/Sydney Australia/ACT  
Link Australia/Sydney Australia/Canberra  
Link Australia/Lord\_Howe Australia/LHI  
Link Australia/Sydney Australia/NSW  
Link Australia/Darwin Australia/North  
Link Australia/Brisbane Australia/Queensland  
Link Australia/Adelaide Australia/South  
Link Australia/Hobart Australia/Tasmania  
Link Australia/Melbourne Australia/Victoria  
Link Australia/Perth Australia/West  
Link Australia/Broken\_Hill Australia/Yancowinna  
Link America/Rio\_Branco Brazil/Acre  
Link America/Noronha Brazil/DeNoronha  
Link America/Sao\_Paulo Brazil/East  
Link America/Manaus Brazil/West  
Link America/Halifax Canada/Atlantic  
Link America/Winnipeg Canada/Central  
Link America/Regina Canada/East-Saskatchewan  
Link America/Toronto Canada/Eastern  
Link America/Edmonton Canada/Mountain

Link America/St\_Johns Canada/Newfoundland  
Link America/Vancouver Canada/Pacific  
Link America/Regina Canada/Saskatchewan  
Link America/Whitehorse Canada/Yukon  
Link America/Santiago Chile/Continental  
Link Pacific/Easter Chile/EasterIsland  
Link America/Havana Cuba  
Link Africa/Cairo Egypt  
Link Europe/Dublin Eire  
Link Europe/London Europe/Belfast  
Link Europe/Chisinau Europe/Tiraspol  
Link Europe/London GB  
Link Europe/London GB-Eire  
Link Etc/GMT GMT+0  
Link Etc/GMT GMT-0  
Link Etc/GMT GMT0  
Link Etc/GMT Greenwich  
Link Asia/Hong\_Kong Hongkong  
Link Atlantic/Reykjavik Iceland  
Link Asia/Tehran Iran  
Link Asia/Jerusalem Israel  
Link America/Jamaica Jamaica  
Link Asia/Tokyo Japan  
Link Pacific/Kwajalein Kwajalein  
Link Africa/Tripoli Libya  
Link America/Tijuana Mexico/BajaNorte  
Link America/Mazatlan Mexico/BajaSur  
Link America/Mexico\_City Mexico/General  
Link Pacific/Auckland NZ  
Link Pacific/Chatham NZ-CHAT  
Link America/Denver Navajo  
Link Asia/Shanghai PRC  
Link Pacific/Pago\_Pago Pacific/Samoa  
Link Pacific/Chuuk Pacific/Yap  
Link Pacific/Chuuk Pacific/Truk  
Link Pacific/Pohnpei Pacific/Ponape  
Link Europe/Warsaw Poland  
Link Europe/Lisbon Portugal  
Link Asia/Taipei ROC  
Link Asia/Seoul ROK  
Link Asia/Singapore Singapore  
Link Europe/Istanbul Turkey  
Link Etc/UCT UCT  
Link America/Anchorage US/Alaska  
Link America/Adak US/Aleutian  
Link America/Phoenix US/Arizona  
Link America/Chicago US/Central  
Link America/Indiana/Indianapolis US/East-Indiana

Link America/New\_York US/Eastern  
Link Pacific/Honolulu US/Hawaii  
Link America/Indiana/Knox US/Indiana-Starke  
Link America/Detroit US/Michigan  
Link America/Denver US/Mountain  
Link America/Los\_Angeles US/Pacific  
Link Pacific/Pago\_Pago US/Samoa  
Link Etc/UTC UTC  
Link Etc/UTC Universal  
Link Europe/Moscow W-SU  
Link Etc/UTC Zulu

Found

in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/backward  
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Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/sun/util/calendar/Gregorian.java  
\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-

```
2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/util/calendar/ZoneInfo.java
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-
2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/util/calendar/CalendarSystem.java
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-
2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCg/sun/tools/javazic/Gen.java
No license file was found, but licenses were detected in source scan.
```

```
# <pre>
```

```
# This file is in the public domain, so clarified as of
# 2009-05-17 by Arthur David Olson.
```

```
# This data is by no means authoritative; if you think you know better,
# go ahead and edit the file (and please send any changes to
# tz@iana.org for general use in the future).
```

```
# From Paul Eggert (2013-02-21):
```

```
#
```

```
# A good source for time zone historical data outside the U.S. is
# Thomas G. Shanks and Rique Pottenger, The International Atlas (6th edition),
# San Diego: ACS Publications, Inc. (2003).
```

```
#
```

```
# Gwillim Law writes that a good source
# for recent time zone data is the International Air Transport
# Association's Standard Schedules Information Manual (IATA SSIM),
# published semiannually. Law sent in several helpful summaries
# of the IATA's data after 1990.
```

```
#
```

```
# Except where otherwise noted, Shanks & Pottenger is the source for
# entries through 1990, and IATA SSIM is the source for entries afterwards.
```

```
#
```

```
# Another
```

```
source occasionally used is Edward W. Whitman, World Time Differences,
# Whitman Publishing Co, 2 Niagara Av, Ealing, London (undated), which
# I found in the UCLA library.
```

```
#
```

```
# For data circa 1899, a common source is:
# Milne J. Civil time. Geogr J. 1899 Feb;13(2):173-94
# <http://www.jstor.org/stable/1774359>.
```

```
#
```

```
# A reliable and entertaining source about time zones is
# Derek Howse, Greenwich time and longitude, Philip Wilson Publishers (1997).
```

```
#
```

```
# I invented the abbreviations marked `*' in the following table;
# the rest are from earlier versions of this file, or from other sources.
```

```
# Corrections are welcome!
```

```
# std dst
```

```
# LMT Local Mean Time
```

```
# 2:00 EET EEST Eastern European Time
```



# 2:00 IST IDT Israel  
# 3:00 AST ADT Arabia\*  
# 3:30 IRST IRDT Iran  
# 4:00 GST Gulf\*  
# 5:30 IST India  
# 7:00 ICT Indochina\*  
# 7:00 WIT west Indonesia  
# 8:00 CIT central Indonesia  
# 8:00 CST China  
# 9:00 CJT Central Japanese Time (1896/1937)\*  
# 9:00 EIT east Indonesia  
# 9:00 JST JDT Japan  
# 9:00  
KST KDT Korea  
# 9:30 CST (Australian) Central Standard Time  
#  
# See the `europe' file for Russia and Turkey in Asia.

# From Guy Harris:

# Incorporates data for Singapore from Robert Elz' asia 1.1, as well as  
# additional information from Tom Yap, Sun Microsystems Intercontinental  
# Technical Support (including a page from the Official Airline Guide -  
# Worldwide Edition). The names for time zones are guesses.

#####

# These rules are stolen from the `europe' file.  
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule EUAsia 1981 max - Mar lastSun 1:00u 1:00 S  
Rule EUAsia 1979 1995 - Sep lastSun 1:00u 0 -  
Rule EUAsia 1996 max - Oct lastSun 1:00u 0 -  
Rule E-EurAsia 1981 max - Mar lastSun 0:00 1:00 S  
Rule E-EurAsia 1979 1995 - Sep lastSun 0:00 0 -  
Rule E-EurAsia 1996 max - Oct lastSun 0:00 0 -  
Rule RussiaAsia 1981 1984 - Apr 1 0:00 1:00 S  
Rule RussiaAsia 1981 1983 - Oct 1 0:00 0 -  
Rule RussiaAsia 1984 1991 - Sep lastSun  
2:00s 0 -  
Rule RussiaAsia 1985 1991 - Mar lastSun 2:00s 1:00 S  
Rule RussiaAsia 1992 only - Mar lastSat 23:00 1:00 S  
Rule RussiaAsia 1992 only - Sep lastSat 23:00 0 -  
Rule RussiaAsia 1993 max - Mar lastSun 2:00s 1:00 S  
Rule RussiaAsia 1993 1995 - Sep lastSun 2:00s 0 -  
Rule RussiaAsia 1996 max - Oct lastSun 2:00s 0 -

# Afghanistan  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Kabul 4:36:48 - LMT 1890

4:00 - AFT 1945

4:30 - AFT

# Armenia

# From Paul Eggert (2006-03-22):

# Shanks & Pottenger have Yerevan switching to 3:00 (with Russian DST)

# in spring 1991, then to 4:00 with no DST in fall 1995, then

# readopting Russian DST in 1997. Go with Shanks & Pottenger, even

# when they disagree with others. Edgar Der-Danieliantz

# reported (1996-05-04) that Yerevan probably wouldn't use DST

# in 1996, though it did use DST in 1995. IATA SSIM (1991/1998) reports that

# Armenia switched from 3:00 to 4:00 in 1998 and observed DST after 1991,

# but started switching

at 3:00s in 1998.

# From Arthur David Olson (2011-06-15):

# While Russia abandoned DST in 2011, Armenia may choose to

# follow Russia's "old" rules.

# From Alexander Krivenyshev (2012-02-10):

# According to News Armenia, on Feb 9, 2012,

# <http://newsarmenia.ru/society/20120209/42609695.html>

#

# The Armenia National Assembly adopted final reading of Amendments to the

# Law "On procedure of calculation time on the territory of the Republic of

# Armenia" according to which Armenia [is] abolishing Daylight Saving Time.

# or

# (brief)

# [http://www.worldtimezone.com/dst\\_news/dst\\_news\\_armenia03.html](http://www.worldtimezone.com/dst_news/dst_news_armenia03.html)

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Yerevan 2:58:00 - LMT 1924 May 2

3:00 - YERT 1957 Mar # Yerevan Time

4:00 RussiaAsia YER%sT 1991 Mar 31 2:00s

3:00 1:00 YERST 1991 Sep 23 # independence

3:00 RussiaAsia AM%sT 1995 Sep 24 2:00s

4:00 - AMT 1997

4:00 RussiaAsia AM%sT 2012 Mar 25 2:00s

4:00 - AMT

# Azerbaijan

# From Rustam Aliyev of the Azerbaijan Internet

Forum (2005-10-23):

# According to the resolution of Cabinet of Ministers, 1997

# Resolution available at: [http://aif.az/docs/daylight\\_res.pdf](http://aif.az/docs/daylight_res.pdf)

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Azer 1997 max - Mar lastSun 4:00 1:00 S

Rule Azer 1997 max - Oct lastSun 5:00 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Baku 3:19:24 - LMT 1924 May 2  
3:00 - BAKT 1957 Mar # Baku Time  
4:00 RussiaAsia BAK%ST 1991 Mar 31 2:00s  
3:00 1:00 BAKST 1991 Aug 30 # independence  
3:00 RussiaAsia AZ%ST 1992 Sep lastSat 23:00  
4:00 - AZT 1996 # Azerbaijan time  
4:00 EUAsia AZ%ST 1997  
4:00 Azer AZ%ST

# Bahrain  
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
Zone Asia/Bahrain 3:22:20 - LMT 1920 # Al Manamah  
4:00 - GST 1972 Jun  
3:00 - AST

# Bangladesh  
# From Alexander Krivenyshev (2009-05-13):  
# According to newspaper Asian Tribune (May 6, 2009) Bangladesh may introduce  
# Daylight Saving Time from June 16 to Sept 30  
#  
# Bangladesh to introduce daylight saving time likely  
# from June 16  
# <a href="http://www.asiantribune.com/?q=node/17288">  
# http://www.asiantribune.com/?q=node/17288  
# </a>  
# or  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_bangladesh02.html">  
# http://www.worldtimezone.com/dst\_news/dst\_news\_bangladesh02.html  
# </a>  
#  
# "... Bangladesh government has decided to switch daylight saving time from  
# June  
# 16 till September 30 in a bid to ensure maximum use of daylight to cope with  
# crippling power crisis. "  
#  
# The switch will remain in effect from June 16 to Sept 30 (2009) but if  
# implemented the next year, it will come in force from April 1, 2010

# From Steffen Thorsen (2009-06-02):  
# They have finally decided now, but changed the start date to midnight between  
# the 19th and 20th, and they have not set the end date yet.  
#  
# Some sources:  
# <a href="http://in.reuters.com/article/southAsiaNews/idINIndia-40017620090601">  
# http://in.reuters.com/article/southAsiaNews/idINIndia-40017620090601  
# </a>  
# <a href="http://bdnews24.com/details.php?id=85889&cid=2">  
#

<http://bdnews24.com/details.php?id=85889&cid=2>  
# </a>  
#  
# Our wrap-up:  
# <a href="http://www.timeanddate.com/news/time/bangladesh-daylight-saving-2009.html">  
# <http://www.timeanddate.com/news/time/bangladesh-daylight-saving-2009.html>  
# </a>

# From A. N. M. Kamrus Saadat (2009-06-15):  
# Finally we've got the official mail regarding DST start time where DST start  
# time is mentioned as Jun 19 2009, 23:00 from BTRC (Bangladesh  
# Telecommunication Regulatory Commission).  
#  
# No DST end date has been announced yet.

# From Alexander Krivenyshev (2009-09-25):  
# Bangladesh won't go back to Standard Time from October 1, 2009,  
# instead it will continue DST measure till the cabinet makes a fresh decision.  
#  
# Following report by same newspaper-"The Daily Star Friday":  
# "DST change awaits cabinet decision-Clock won't go back by 1-hr from Oct 1"  
# <a href="http://www.thedailystar.net/newDesign/news-details.php?nid=107021">  
# <http://www.thedailystar.net/newDesign/news-details.php?nid=107021>  
#  
</a>  
# or  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_bangladesh04.html">  
# [http://www.worldtimezone.com/dst\\_news/dst\\_news\\_bangladesh04.html](http://www.worldtimezone.com/dst_news/dst_news_bangladesh04.html)  
# </a>

# From Steffen Thorsen (2009-10-13):  
# IANS (Indo-Asian News Service) now reports:  
# Bangladesh has decided that the clock advanced by an hour to make  
# maximum use of daylight hours as an energy saving measure would  
# "continue for an indefinite period."  
#  
# One of many places where it is published:  
# <a href="http://www.thaindian.com/newsportal/business/bangladesh-to-continue-indefinitely-with-advanced-time\_100259987.html">  
# [http://www.thaindian.com/newsportal/business/bangladesh-to-continue-indefinitely-with-advanced-time\\_100259987.html](http://www.thaindian.com/newsportal/business/bangladesh-to-continue-indefinitely-with-advanced-time_100259987.html)  
# </a>

# From Alexander Krivenyshev (2009-12-24):  
# According to Bangladesh newspaper "The Daily Star,"  
# Bangladesh will change its clock back to Standard Time on Dec 31, 2009.  
#  
# Clock goes back 1-hr on Dec 31 night.

```

# <a href="http://www.thedailystar.net/newDesign/news-details.php?nid=119228">
#
# http://www.thedailystar.net/newDesign/news-details.php?nid=119228
# </a>
# and
# <a href="http://www.worldtimezone.com/dst_news/dst_news_bangladesh05.html">
# http://www.worldtimezone.com/dst_news/dst_news_bangladesh05.html
# </a>
#
# "...The government yesterday decided to put the clock back by one hour
# on December 31 midnight and the new time will continue until March 31,
# 2010 midnight. The decision came at a cabinet meeting at the Prime
# Minister's Office last night..."

# From Alexander Krivenyshev (2010-03-22):
# According to Bangladesh newspaper "The Daily Star,"
# Cabinet cancels Daylight Saving Time
# <a href="http://www.thedailystar.net/newDesign/latest_news.php?nid=22817">
# http://www.thedailystar.net/newDesign/latest_news.php?nid=22817
# </a>
# or
# <a href="http://www.worldtimezone.com/dst_news/dst_news_bangladesh06.html">
# http://www.worldtimezone.com/dst_news/dst_news_bangladesh06.html
# </a>

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Dhaka 2009 only - Jun 19 23:00 1:00 S
Rule Dhaka 2009 only - Dec 31 23:59 0 -

#
Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Asia/Dhaka 6:01:40 - LMT 1890
5:53:20 - HMT 1941 Oct # Howrah Mean Time?
6:30 - BURT 1942 May 15 # Burma Time
5:30 - IST 1942 Sep
6:30 - BURT 1951 Sep 30
6:00 - DACT 1971 Mar 26 # Dacca Time
6:00 - BDT 2009
6:00 Dhaka BD%ST

# Bhutan
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Asia/Thimphu 5:58:36 - LMT 1947 Aug 15 # or Thimbu
5:30 - IST 1987 Oct
6:00 - BTT # Bhutan Time

# British Indian Ocean Territory
# Whitman and the 1995 CIA time zone map say 5:00, but the

```

# 1997 and later maps say 6:00. Assume the switch occurred in 1996.  
# We have no information as to when standard time was introduced;  
# assume it occurred in 1907, the same year as Mauritius (which  
# then contained the Chagos Archipelago).  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Indian/Chagos 4:49:40 - LMT 1907  
5:00 - IOT 1996 # BIOT Time  
6:00 - IOT

#  
Brunei  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Brunei 7:39:40 - LMT 1926 Mar # Bandar Seri Begawan  
7:30 - BNT 1933  
8:00 - BNT

# Burma / Myanmar

# Milne says 6:24:40 was the meridian of the time ball observatory at Rangoon.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Rangoon 6:24:40 - LMT 1880 # or Yangon  
6:24:40 - RMT 1920 # Rangoon Mean Time?  
6:30 - BURT 1942 May # Burma Time  
9:00 - JST 1945 May 3  
6:30 - MMT # Myanmar Time

# Cambodia  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Phnom\_Penh 6:59:40 - LMT 1906 Jun 9  
7:06:20 - SMT 1911 Mar 11 0:01 # Saigon MT?  
7:00 - ICT 1912 May  
8:00 - ICT 1931 May  
7:00 - ICT

# China

# From Guy Harris:  
# People's Republic of China. Yes, they really have only one time zone.

# From Bob Devine (1988-01-28):  
# No they don't. See TIME mag, 1986-02-17 p.52. Even though  
# China is across 4 physical time zones, before Feb 1, 1986 only the  
# Peking (Bejing) time zone  
was recognized. Since that date, China  
# has two of 'em -- Peking's and Urumqi (named after the capital of  
# the Xinjiang Uyghur Autonomous Region). I don't know about DST for it.  
#

```

# . . .I just deleted the DST table and this editor makes it too
# painful to suck in another copy.. So, here is what I have for
# DST start/end dates for Peking's time zone (info from AP):
#
# 1986 May 4 - Sept 14
# 1987 mid-April - ??

# From U. S. Naval Observatory (1989-01-19):
# CHINA      8 H AHEAD OF UTC ALL OF CHINA, INCL TAIWAN
# CHINA      9 H AHEAD OF UTC APR 17 - SEP 10

# From Paul Eggert (2006-03-22):
# Shanks & Pottenger write that China (except for Hong Kong and Macau)
# has had a single time zone since 1980 May 1, observing summer DST
# from 1986 through 1991; this contradicts Devine's
# note about Time magazine, though apparently _something_ happened in 1986.
# Go with Shanks & Pottenger for now. I made up names for the other
# pre-1980 time zones.

# From
# Shanks & Pottenger:
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Shang 1940 only - Jun 3 0:00 1:00 D
Rule Shang 1940 1941 - Oct 1 0:00 0 S
Rule Shang 1941 only - Mar 16 0:00 1:00 D
Rule PRC 1986 only - May 4 0:00 1:00 D
Rule PRC 1986 1991 - Sep Sun>=11 0:00 0 S
Rule PRC 1987 1991 - Apr Sun>=10 0:00 1:00 D

# From Anthony Fok (2001-12-20):
# BTW, I did some research on-line and found some info regarding these five
# historic timezones from some Taiwan websites. And yes, there are official
# Chinese names for these locales (before 1949).
#
# From Jesper Norgaard Welen (2006-07-14):
# I have investigated the timezones around 1970 on the
# http://www.astro.com/atlas site [with provinces and county
# boundaries summarized below].... A few other exceptions were two
# counties on the Sichuan side of the Xizang-Sichuan border,
# counties Dege and Baiyu which lies on the Sichuan side and are
# therefore supposed to be GMT+7, Xizang region being GMT+6, but Dege
# county is GMT+8 according
# to astro.com while Baiyu county is GMT+6
# (could be true), for the moment I am assuming that those two
# counties are mistakes in the astro.com data.

# From Paul Eggert (2008-02-11):
# I just now checked Google News for western news sources that talk

```

```

# about China's single time zone, and couldn't find anything before 1986
# talking about China being in one time zone. (That article was: Jim
# Mann, "A clumsy embrace for another western custom: China on daylight
# time--sort of", Los Angeles Times, 1986-05-05. By the way, this
# article confirms the tz database's data claiming that China began
# observing daylight saving time in 1986.
#
# From Thomas S. Mullaney (2008-02-11):
# I think you're combining two subjects that need to be treated
# separately: daylight savings (which, you're correct, wasn't
# implemented until the 1980s) and the unified time zone centered near
# Beijing (which was implemented in 1949). Briefly, there was also a
# "Lhasa Time" in Tibet and "Urumqi Time"
# in Xinjiang. The first was
# ceased, and the second eventually recognized (again, in the 1980s).
#
# From Paul Eggert (2008-06-30):
# There seems to be a good chance China switched to a single time zone in 1949
# rather than in 1980 as Shanks & Pottenger have it, but we don't have a
# reliable documentary source saying so yet, so for now we still go with
# Shanks & Pottenger.

# Zone NAME GMT+OFF RULES FORMAT [UNTIL]
# Changbai Time ("Long-white Time", Long-white = Heilongjiang area)
# Heilongjiang (except Mohe county), Jilin
Zone Asia/Harbin 8:26:44 - LMT 1928 # or Haerbin
  8:30 - CHAT 1932 Mar # Changbai Time
  8:00 - CST 1940
  9:00 - CHAT 1966 May
  8:30 - CHAT 1980 May
  8:00 PRC C%sT
# Zhongyuan Time ("Central plain Time")
# most of China
# Milne gives 8:05:56.7; round to nearest.
Zone Asia/Shanghai 8:05:57 - LMT 1928
  8:00 Shang C%sT 1949
  8:00 PRC C%sT
# Long-shu Time (probably due to Long and Shu being two names of that area)
# Guangxi, Guizhou, Hainan, Ningxia, Sichuan,
# Shaanxi, and Yunnan;
# most of Gansu; west Inner Mongolia; west Qinghai; and the Guangdong
# counties Deqing, Enping, Kaiping, Luoding, Taishan, Xinxing,
# Yangchun, Yangjiang, Yu'nan, and Yunfu.
Zone Asia/Chongqing 7:06:20 - LMT 1928 # or Chungking
  7:00 - LONT 1980 May # Long-shu Time
  8:00 PRC C%sT
# Xin-zang Time ("Xinjiang-Tibet Time")
# The Gansu counties Aksay, Anxi, Dunhuang, Subei; west Qinghai;

```



# the Guangdong counties Xuwen, Haikang, Suixi, Lianjiang,  
# Zhanjiang, Wuchuan, Huazhou, Gaozhou, Maoming, Dianbai, and Xinyi;  
# east Tibet, including Lhasa, Chamdo, Shigaise, Jimsar, Shawan and Hutubi;  
# east Xinjiang, including Urumqi, Turpan, Karamay, Korla, Minfeng, Jinghe,  
# Wusu, Qiemo, Xinyan, Wulanwusu, Jinghe, Yumin, Tacheng, Tuoli, Emin,  
# Shihezi, Changji, Yanqi, Heshuo, Tuokexun, Tulufan, Shanshan, Hami,  
# Fukang, Kuitun, Kumukuli, Miquan, Qitai, and Turfan.

Zone Asia/Urumqi 5:50:20 - LMT 1928 # or Urumchi

6:00 - URUT 1980 May # Urumqi Time

8:00 PRC C%ST

#

Kunlun Time

# West Tibet, including Pulan, Aheqi, Shufu, Shule;  
# West Xinjiang, including Aksu, Atushi, Yining, Hetian, Cele, Luopu, Nileke,  
# Zhaosu, Tekesi, Gongliu, Chabuchaer, Huocheng, Bole, Pishan, Suiding,  
# and Yarkand.

# From Luther Ma (2009-10-17):

# Almost all (>99.9%) ethnic Chinese (properly ethnic Han) living in  
# Xinjiang use Chinese Standard Time. Some are aware of Xinjiang time,  
# but have no need of it. All planes, trains, and schools function on  
# what is called "Beijing time." When Han make an appointment in Chinese  
# they implicitly use Beijing time.

#

# On the other hand, ethnic Uyghurs, who make up about half the  
# population of Xinjiang, typically use "Xinjiang time" which is two  
# hours behind Beijing time, or UTC +0600. The government of the Xinjiang  
# Uyghur Autonomous Region, (XAUR, or just Xinjiang for short) as well as  
# local governments such as the Urumqi city government use both times in  
# publications, referring to what is popularly called Xinjiang  
# time as  
# "Urumqi time." When Uyghurs make an appointment in the Uyghur language  
# they almost invariably use Xinjiang time.

#

# (Their ethnic Han compatriots would typically have no clue of its  
# widespread use, however, because so extremely few of them are fluent in  
# Uyghur, comparable to the number of Anglo-Americans fluent in Navajo.)

#

# (...As with the rest of China there was a brief interval ending in 1990  
# or 1991 when summer time was in use. The confusion was severe, with  
# the province not having dual times but four times in use at the same  
# time. Some areas remained on standard Xinjiang time or Beijing time and  
# others moving their clocks ahead.)

#

# ...an example of an official website using of Urumqi time.

#

# The first few lines of the Google translation of

# <a href="http://www.fjysgl.gov.cn/show.aspx?id=2379&cid=39">

# <http://www.fjysgl.gov.cn/show.aspx?id=2379&cid=39>  
# </a>  
# (retrieved 2009-10-13)  
# > Urumqi fire seven people are missing the alleged losses of at least  
# > 500 million yuan  
# >  
# > (Reporter Dong Liu) the day before 20:20 or so (Urumqi Time 18:20),  
# > Urumqi City Department of International Plaza Luther Qiantang River  
# > burst fire. As of yesterday, 18:30, Urumqi City Fire officers and men  
# > have worked continuously for 22 hours...

# From Luther Ma (2009-11-19):  
# With the risk of being redundant to previous answers these are the most common  
# English "transliterations" (w/o using non-English symbols):  
#  
# 1. Wulumuqi...  
# 2. Kashi...  
# 3. Urumqi...  
# 4. Kashgar...  
# ...  
# 5. It seems that Uyghurs in Urumqi has been using Xinjiang since at least the  
# 1960's. I know of one Han, now over 50, who grew up in the surrounding  
# countryside and used Xinjiang time as a child.  
#  
# 6. Likewise for Kashgar and the rest of south Xinjiang I don't know of any  
# start date for Xinjiang time.  
#  
# Without having access to local historical records, nor the ability to legally  
# publish them, I would go with October 1, 1949, when Xinjiang became  
# the Uyghur  
# Autonomous Region under the PRC. (Before that Uyghurs, of course, would also  
# not be using Beijing time, but some local time.)

Zone Asia/Kashgar 5:03:56 - LMT 1928 # or Kashi or Kaxgar  
5:30 - KAST 1940 # Kashgar Time  
5:00 - KAST 1980 May  
8:00 PRC C%ST

# Hong Kong (Xianggang)

# Milne gives 7:36:41.7; round this.

# From Lee Yiu Chung (2009-10-24):  
# I found there are some mistakes for the...DST rule for Hong  
# Kong. [According] to the DST record from Hong Kong Observatory (actually,  
# it is not [an] observatory, but the official meteorological agency of HK,

# and also serves as the official timing agency), there are some missing  
# and incorrect rules. Although the exact switch over time is missing, I  
# think 3:30 is correct. The official DST record for Hong Kong can be  
# obtained from  
# <a href="http://www.hko.gov.hk/gts/time/Summertime.htm">  
# http://www.hko.gov.hk/gts/time/Summertime.htm  
# </a>.

# From Arthur David Olson (2009-10-28):

# Here are the dates

given at

# <a href="http://www.hko.gov.hk/gts/time/Summertime.htm">

# http://www.hko.gov.hk/gts/time/Summertime.htm

# </a>

# as of 2009-10-28:

# Year	Period
# 1941	1 Apr to 30 Sep
# 1942	Whole year
# 1943	Whole year
# 1944	Whole year
# 1945	Whole year
# 1946	20 Apr to 1 Dec
# 1947	13 Apr to 30 Dec
# 1948	2 May to 31 Oct
# 1949	3 Apr to 30 Oct
# 1950	2 Apr to 29 Oct
# 1951	1 Apr to 28 Oct
# 1952	6 Apr to 25 Oct
# 1953	5 Apr to 1 Nov
# 1954	21 Mar to 31 Oct
# 1955	20 Mar to 6 Nov
# 1956	18 Mar to 4 Nov
# 1957	24 Mar to 3 Nov
# 1958	23 Mar to 2 Nov
# 1959	22 Mar to 1 Nov
# 1960	20 Mar to 6 Nov
# 1961	19 Mar to 5 Nov
# 1962	18 Mar to 4 Nov
# 1963	24 Mar to 3 Nov
# 1964	22 Mar to 1 Nov
# 1965	18 Apr to 17 Oct
# 1966	17 Apr to 16 Oct
# 1967	16 Apr to 22 Oct
# 1968	21 Apr to 20 Oct
# 1969	20 Apr to 19 Oct
# 1970	19 Apr to 18 Oct
# 1971	18 Apr to 17 Oct

# 1972 16 Apr to 22 Oct  
 # 1973 22 Apr to 21 Oct  
 # 1973/74 30 Dec 73 to 20 Oct 74  
 # 1975 20 Apr to 19 Oct  
 # 1976 18 Apr to 17 Oct  
 # 1977 Nil  
 # 1978 Nil  
 # 1979 13 May to 21 Oct  
 # 1980 to Now Nil  
 # The page does not give start or end times of day.  
 # The page does not give a start date for 1942.  
 # The page does not give an end date for 1945.  
 # The Japanese occupation of Hong Kong began on 1941-12-25.  
 # The Japanese surrender of Hong Kong was signed 1945-09-15.  
 # For lack of anything better, use start of those days as the transition times.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule HK 1941 only - Apr 1 3:30 1:00 S  
 Rule HK 1941 only - Sep 30 3:30 0 -  
 Rule HK 1946 only - Apr 20 3:30 1:00 S  
 Rule HK 1946 only - Dec 1 3:30 0 -  
 Rule HK 1947 only - Apr 13 3:30 1:00 S  
 Rule HK 1947 only - Dec 30 3:30 0 -  
 Rule HK 1948 only - May 2 3:30 1:00 S  
 Rule HK 1948 1951 - Oct lastSun 3:30 0 -  
 Rule HK 1952 only - Oct 25 3:30 0 -  
 Rule HK 1949 1953 - Apr Sun>=1 3:30 1:00 S  
 Rule HK 1953 only - Nov 1 3:30 0 -  
 Rule HK 1954 1964 - Mar Sun>=18 3:30 1:00 S  
 Rule HK 1954 only - Oct 31 3:30 0 -  
 Rule HK 1955 1964 - Nov Sun>=1 3:30 0 -  
 Rule HK 1965 1976 - Apr Sun>=16 3:30 1:00 S  
 Rule HK 1965 1976 - Oct Sun>=16 3:30 0 -  
 Rule HK 1973 only - Dec 30 3:30 1:00 S  
 Rule HK 1979 only - May Sun>=8 3:30 1:00 S  
 Rule HK 1979 only - Oct Sun>=16 3:30 0 -

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Hong\_Kong 7:36:42 - LMT 1904 Oct 30  
 8:00 HK HK%sT 1941 Dec 25  
 9:00 - JST 1945 Sep 15  
 8:00 HK HK%sT

#####

# Taiwan

# Shanks & Pottenger write that Taiwan observed DST during 1945, when it

# was still controlled by Japan. This is hard to believe, but we don't  
# have any other information.

# From smallufo (2010-04-03):

# According to Taiwan's CWB,

# <a href="http://www.cwb.gov.tw/V6/astronomy/cdata/summert.htm">

#

http://www.cwb.gov.tw/V6/astronomy/cdata/summert.htm

# </a>

# Taipei has DST in 1979 between July 1st and Sep 30.

# From Arthur David Olson (2010-04-07):

# Here's Google's translation of the table at the bottom of the "summert.htm" page:

# Decade	Name	Start and end date
# Republic of China 34 years to 40 years (AD 1945-1951 years)	Summer Time	May 1 to September 30
# 41 years of the Republic of China (AD 1952)	Daylight Saving Time	March 1 to October 31
# Republic of China 42 years to 43 years (AD 1953-1954 years)	Daylight Saving Time	April 1 to October 31
# In the 44 years to 45 years (AD 1955-1956 years)	Daylight Saving Time	April 1 to September 30
# Republic of China 46 years to 48 years (AD 1957-1959)	Summer Time	April 1 to September 30
# Republic of China 49 years to 50 years (AD 1960-1961)	Summer Time	June 1 to September 30
# Republic of China 51 years to 62 years (AD 1962-1973 years)	Stop Summer Time	
# Republic of China 63 years to 64 years (1974-1975 AD)	Daylight Saving Time	April 1 to September 30
# Republic of China 65 years to 67 years (1976-1978 AD)	Stop Daylight Saving Time	
# Republic of China 68 years (AD 1979)	Daylight Saving Time	July 1 to September 30
# Republic of China since 69 years (AD 1980)	Stop Daylight Saving Time	

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Taiwan 1945 1951 - May 1 0:00 1:00 D

Rule Taiwan 1945 1951 - Oct 1 0:00 0 S

Rule Taiwan 1952 only - Mar 1 0:00 1:00 D

Rule Taiwan 1952 1954 - Nov 1 0:00 0 S

Rule Taiwan 1953 1959 - Apr 1 0:00 1:00 D

Rule Taiwan 1955 1961 - Oct 1 0:00 0 S

Rule Taiwan 1960 1961 - Jun 1 0:00 1:00 D

Rule Taiwan 1974 1975 - Apr 1 0:00 1:00 D

Rule Taiwan 1974 1975 - Oct 1 0:00 0 S

Rule Taiwan 1979 only - Jun 30 0:00 1:00 D

Rule Taiwan 1979 only - Sep 30 0:00 0 S

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Taipei 8:06:00 - LMT 1896 # or Taibei or T'ai-pei

8:00 Taiwan C%sT

# Macau (Macao, Aomen)

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Macau 1961 1962 - Mar Sun>=16 3:30 1:00 S

Rule Macau 1961 1964 - Nov Sun>=1 3:30 0 -  
Rule Macau 1963 only - Mar Sun>=16 0:00 1:00 S  
Rule Macau 1964 only - Mar Sun>=16 3:30 1:00 S  
Rule Macau 1965 only - Mar Sun>=16 0:00 1:00 S  
Rule Macau 1965 only - Oct 31 0:00 0 -  
Rule Macau 1966 1971 - Apr Sun>=16 3:30 1:00 S  
Rule Macau 1966 1971 - Oct Sun>=16 3:30 0 -  
Rule Macau 1972 1974 - Apr Sun>=15 0:00 1:00 S  
Rule Macau 1972 1973 - Oct Sun>=15 0:00 0 -  
Rule Macau 1974 1977 - Oct Sun>=15 3:30 0 -  
Rule Macau 1975 1977 - Apr Sun>=15 3:30 1:00 S  
Rule Macau 1978 1980 - Apr Sun>=15 0:00 1:00 S  
Rule Macau 1978 1980 - Oct Sun>=15 0:00 0 -  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Macau 7:34:20 - LMT 1912  
8:00 Macau MO%sT 1999 Dec 20 # return to China  
8:00 PRC C%sT

#####

#  
Cyprus  
#  
# Milne says the Eastern Telegraph Company used 2:14:00. Stick with LMT.  
#  
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Cyprus 1975 only - Apr 13 0:00 1:00 S  
Rule Cyprus 1975 only - Oct 12 0:00 0 -  
Rule Cyprus 1976 only - May 15 0:00 1:00 S  
Rule Cyprus 1976 only - Oct 11 0:00 0 -  
Rule Cyprus 1977 1980 - Apr Sun>=1 0:00 1:00 S  
Rule Cyprus 1977 only - Sep 25 0:00 0 -  
Rule Cyprus 1978 only - Oct 2 0:00 0 -  
Rule Cyprus 1979 1997 - Sep lastSun 0:00 0 -  
Rule Cyprus 1981 1998 - Mar lastSun 0:00 1:00 S  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Nicosia 2:13:28 - LMT 1921 Nov 14  
2:00 Cyprus EE%sT 1998 Sep  
2:00 EUAsia EE%sT  
# IATA SSIM (1998-09) has Cyprus using EU rules for the first time.  
  
# Classically, Cyprus belongs to Asia; e.g. see Herodotus, Histories, I.72.  
# However, for various reasons many users expect to find it under Europe.  
Link Asia/Nicosia Europe/Nicosia  
  
# Georgia  
# From Paul Eggert

(1994-11-19):

# Today's \_Economist\_ (p 60) reports that Georgia moved its clocks forward  
# an hour recently, due to a law proposed by Zurab Murvanidze,  
# an MP who went on a hunger strike for 11 days to force discussion about it!  
# We have no details, but we'll guess they didn't move the clocks back in fall.  
#

# From Mathew Englander, quoting AP (1996-10-23 13:05-04):  
# Instead of putting back clocks at the end of October, Georgia  
# will stay on daylight savings time this winter to save energy,  
# President Eduard Shevardnadze decreed Wednesday.  
#

# From the BBC via Joseph S. Myers (2004-06-27):

# Georgia moved closer to Western Europe on Sunday... The former Soviet  
# republic has changed its time zone back to that of Moscow. As a result it  
# is now just four hours ahead of Greenwich Mean Time, rather than five hours  
# ahead. The switch was decreed by the pro-Western president of Georgia,  
# Mikhail Saakashvili, who said the change was partly prompted by the process  
# of integration  
# into Europe.

# From Teimuraz Abashidze (2005-11-07):

# Government of Georgia ... decided to NOT CHANGE daylight savings time on  
# [Oct.] 30, as it was done before during last more than 10 years.  
# Currently, we are in fact GMT +4:00, as before 30 October it was GMT  
# +3:00.... The problem is, there is NO FORMAL LAW or governmental document  
# about it. As far as I can find, I was told, that there is no document,  
# because we just DIDN'T ISSUE document about switching to winter time....  
# I don't know what can be done, especially knowing that some years ago our  
# DST rules were changed THREE TIMES during one month.

# Zone NAME GMTTOFF RULES FORMAT [UNTIL]

Zone Asia/Tbilisi 2:59:16 - LMT 1880

2:59:16 - TBMT 1924 May 2 # Tbilisi Mean Time

3:00 - TBIT 1957 Mar # Tbilisi Time

4:00 RussiaAsia TBI%ST 1991 Mar 31 2:00s

3:00 1:00 TBIST 1991 Apr 9 # independence

3:00 RussiaAsia GE%ST 1992 # Georgia Time

3:00 E-EurAsia GE%ST 1994 Sep lastSun

4:00 E-EurAsia GE%ST 1996

Oct lastSun

4:00 1:00 GEST 1997 Mar lastSun

4:00 E-EurAsia GE%ST 2004 Jun 27

3:00 RussiaAsia GE%ST 2005 Mar lastSun 2:00

4:00 - GET

# East Timor

# See Indonesia for the 1945 transition.

# From Joao Carrascalao, brother of the former governor of East Timor, in  
# <a href="http://etan.org/et99c/december/26-31/30ETMAY.htm">  
# East Timor may be late for its millennium  
# </a> (1999-12-26/31):  
# Portugal tried to change the time forward in 1974 because the sun  
# rises too early but the suggestion raised a lot of problems with the  
# Timorese and I still don't think it would work today because it  
# conflicts with their way of life.

# From Paul Eggert (2000-12-04):  
# We don't have any record of the above attempt.  
# Most likely our records are incomplete, but we have no better data.

# <a href="http://www.hri.org/news/world/undh/last/00-08-16.undh.html">  
# From Manoel de Almeida e Silva, Deputy Spokesman for the UN Secretary-General  
# (2000-08-16)</a>:  
# The Cabinet of the  
East Timor Transition Administration decided  
# today to advance East Timor's time by one hour. The time change,  
# which will be permanent, with no seasonal adjustment, will happen at  
# midnight on Saturday, September 16.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Dili 8:22:20 - LMT 1912  
8:00 - TLT 1942 Feb 21 23:00 # E Timor Time  
9:00 - JST 1945 Sep 23  
9:00 - TLT 1976 May 3  
8:00 - CIT 2000 Sep 17 00:00  
9:00 - TLT

# India  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Kolkata 5:53:28 - LMT 1880 # Kolkata  
5:53:20 - HMT 1941 Oct # Howrah Mean Time?  
6:30 - BURT 1942 May 15 # Burma Time  
5:30 - IST 1942 Sep  
5:30 1:00 IST 1945 Oct 15  
5:30 - IST  
# The following are like Asia/Kolkata:  
# Andaman Is  
# Lakshadweep (Laccadive, Minicoy and Amindivi Is)  
# Nicobar Is

# Indonesia  
#



```

# From Gwillim Law (2001-05-28), overriding Shanks & Pottenger:
# <http://www.sumatera-inc.com/go_to_invest/about_indonesia.asp#standtime>
# says that Indonesia's time zones
# changed on 1988-01-01. Looking at some
# time zone maps, I think that must refer to Western Borneo (Kalimantan Barat
# and Kalimantan Tengah) switching from UTC+8 to UTC+7.
#
# From Paul Eggert (2007-03-10):
# Here is another correction to Shanks & Pottenger.
# JohnTWB writes that Japanese forces did not surrender control in
# Indonesia until 1945-09-01 00:00 at the earliest (in Jakarta) and
# other formal surrender ceremonies were September 9, 11, and 13, plus
# September 12 for the regional surrender to Mountbatten in Singapore.
# These would be the earliest possible times for a change.
# Regimes horaires pour le monde entier, by Henri Le Corre, (Editions
# Traditionnelles, 1987, Paris) says that Java and Madura switched
# from JST to UTC+07:30 on 1945-09-23, and gives 1944-09-01 for Jayapura
# (Hollandia). For now, assume all Indonesian locations other than Jayapura
# switched on 1945-09-23.
#
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Asia/Jakarta 7:07:12 - LMT 1867 Aug 10
#
Shanks & Pottenger say the next transition was at 1924 Jan 1 0:13,
# but this must be a typo.
7:07:12 - JMT 1923 Dec 31 23:47:12 # Jakarta
7:20 - JAVT 1932 Nov # Java Time
7:30 - WIT 1942 Mar 23
9:00 - JST 1945 Sep 23
7:30 - WIT 1948 May
8:00 - WIT 1950 May
7:30 - WIT 1964
7:00 - WIT
Zone Asia/Pontianak 7:17:20 - LMT 1908 May
7:17:20 - PMT 1932 Nov # Pontianak MT
7:30 - WIT 1942 Jan 29
9:00 - JST 1945 Sep 23
7:30 - WIT 1948 May
8:00 - WIT 1950 May
7:30 - WIT 1964
8:00 - CIT 1988 Jan 1
7:00 - WIT
Zone Asia/Makassar 7:57:36 - LMT 1920
7:57:36 - MMT 1932 Nov # Macassar MT
8:00 - CIT 1942 Feb 9
9:00 - JST 1945 Sep 23
8:00 - CIT
Zone Asia/Jayapura 9:22:48 - LMT 1932 Nov

```

9:00 - EIT 1944 Sep 1

9:30 - CST 1964

9:00 - EIT

# Iran

# From Roozbeh Pournader (2003-03-15):

# This is an English translation of what I just found (originally in Persian).

# The Gregorian dates in brackets are mine:

#

# Official Newspaper No.

13548-1370/6/25 [1991-09-16]

# No. 16760/T233 H 1370/6/10 [1991-09-01]

#

# The Rule About Change of the Official Time of the Country

#

# The Board of Ministers, in the meeting dated 1370/5/23 [1991-08-14],

# based on the suggestion number 2221/D dated 1370/4/22 [1991-07-13]

# of the Country's Organization for Official and Employment Affairs,

# and referring to the law for equating the working hours of workers

# and officers in the whole country dated 1359/4/23 [1980-07-14], and

# for synchronizing the official times of the country, agreed that:

#

# The official time of the country will should move forward one hour

# at the 24[:00] hours of the first day of Farvardin and should return

# to its previous state at the 24[:00] hours of the 30th day of

# Shahrivar.

#

# First Deputy to the President - Hassan Habibi

#

# From personal experience, that agrees with what has been followed

# for at least the last 5 years. Before that, for a few years, the

# date used was the first Thursday night

of Farvardin and the last

# Thursday night of Shahrivar, but I can't give exact dates....

# I have also changed the abbreviations to what is considered correct

# here in Iran, IRST for regular time and IRDT for daylight saving time.

#

# From Roozbeh Pournader (2005-04-05):

# The text of the Iranian law, in effect since 1925, clearly mentions

# that the true solar year is the measure, and there is no arithmetic

# leap year calculation involved. There has never been any serious

# plan to change that law....

#

# From Paul Eggert (2006-03-22):

# Go with Shanks & Pottenger before Sept. 1991, and with Pournader thereafter.

# I used Ed Reingold's cal-persia in GNU Emacs 21.2 to check Persian dates,

# stopping after 2037 when 32-bit time\_t's overflow.

# That cal-persia used Birashk's approximation, which disagrees with the solar  
# calendar predictions for the year 2025, so I corrected those dates by hand.  
#  
# From Oscar van Vlijmen (2005-03-30), writing about future  
# discrepancies between  
# cal-persia and the Iranian calendar:  
# For 2091 solar-longitude-after yields 2091-03-20 08:40:07.7 UT for  
# the vernal equinox and that gets so close to 12:00 some local  
# Iranian time that the definition of the correct location needs to be  
# known exactly, amongst other factors. 2157 is even closer:  
# 2157-03-20 08:37:15.5 UT. But the Gregorian year 2025 should give  
# no interpretation problem whatsoever. By the way, another instant  
# in the near future where there will be a discrepancy between  
# arithmetical and astronomical Iranian calendars will be in 2058:  
# vernal equinox on 2058-03-20 09:03:05.9 UT. The Java version of  
# Reingold's/Dershowitz' calculator gives correctly the Gregorian date  
# 2058-03-21 for 1 Farvardin 1437 (astronomical).  
#  
# From Steffen Thorsen (2006-03-22):  
# Several of my users have reported that Iran will not observe DST anymore:  
# <http://www.irna.ir/en/news/view/line-17/0603193812164948.htm>  
#  
# From Reuters (2007-09-16), with a heads-up from Jesper Norgaard  
# Welen:  
# ... the Guardian Council ... approved a law on Sunday to re-introduce  
# daylight saving time ...  
# <http://uk.reuters.com/article/oilRpt/idUKBLA65048420070916>  
#  
# From Roozbeh Pournader (2007-11-05):  
# This is quoted from Official Gazette of the Islamic Republic of  
# Iran, Volume 63, Number 18242, dated Tuesday 1386/6/24  
# [2007-10-16]. I am doing the best translation I can: ...  
# The official time of the country will be moved forward for one hour  
# on the 24 hours of the first day of the month of Farvardin and will  
# be changed back to its previous state on the 24 hours of the  
# thirtieth day of Shahrivar.  
#  
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Iran 1978 1980 - Mar 21 0:00 1:00 D  
Rule Iran 1978 only - Oct 21 0:00 0 S  
Rule Iran 1979 only - Sep 19 0:00 0 S  
Rule Iran 1980 only - Sep 23 0:00 0 S  
Rule Iran 1991 only - May 3 0:00 1:00 D  
Rule Iran 1992 1995 - Mar 22 0:00 1:00 D  
Rule Iran 1991 1995 - Sep 22 0:00 0 S  
Rule Iran 1996 only - Mar 21 0:00 1:00 D  
Rule Iran 1996 only - Sep 21 0:00 0 S  
Rule Iran 1997 1999 - Mar 22 0:00 1:00 D

Rule Iran 1997 1999 - Sep 22 0:00 0 S  
Rule Iran 2000 only - Mar 21 0:00 1:00 D  
Rule Iran 2000 only - Sep 21 0:00 0 S  
Rule Iran 2001 2003 - Mar 22 0:00 1:00 D  
Rule Iran 2001 2003 - Sep 22 0:00 0 S  
Rule Iran 2004 only - Mar 21 0:00 1:00 D  
Rule Iran 2004 only - Sep 21 0:00 0 S  
Rule Iran 2005 only - Mar 22 0:00 1:00 D  
Rule Iran 2005 only - Sep 22 0:00 0 S  
Rule Iran 2008 only - Mar 21 0:00 1:00 D  
Rule Iran 2008 only - Sep 21 0:00 0 S  
Rule Iran 2009 2011 - Mar 22 0:00 1:00 D  
Rule Iran 2009 2011 - Sep 22 0:00 0 S  
Rule Iran 2012 only - Mar 21 0:00 1:00 D  
Rule Iran 2012 only - Sep 21 0:00 0 S  
Rule Iran 2013 2015 - Mar 22 0:00 1:00 D  
Rule Iran 2013 2015 - Sep 22 0:00 0 S  
Rule Iran 2016 only - Mar 21 0:00 1:00 D  
Rule Iran 2016 only - Sep 21 0:00 0 S  
Rule Iran 2017 2019 - Mar 22 0:00 1:00 D  
Rule Iran 2017 2019 - Sep 22 0:00 0 S  
Rule Iran 2020 only - Mar 21 0:00 1:00 D  
Rule Iran 2020 only - Sep 21 0:00 0 S  
Rule Iran 2021 2023 - Mar 22 0:00 1:00 D  
Rule Iran 2021 2023 - Sep 22 0:00 0 S  
Rule Iran 2024 only - Mar 21 0:00 1:00 D  
Rule Iran 2024 only - Sep 21 0:00 0 S  
Rule Iran 2025 2027 - Mar 22 0:00 1:00 D  
Rule Iran 2025 2027 - Sep 22 0:00 0 S  
Rule Iran 2028 2029 - Mar 21 0:00 1:00 D  
Rule Iran 2028 2029 - Sep 21 0:00 0 S  
Rule Iran 2030 2031 - Mar 22 0:00 1:00 D  
Rule Iran 2030 2031 - Sep 22 0:00 0 S  
Rule Iran 2032 2033 - Mar 21 0:00 1:00 D  
Rule Iran 2032 2033 - Sep 21 0:00 0 S  
Rule Iran 2034 2035 - Mar 22 0:00 1:00 D  
Rule Iran 2034 2035 - Sep 22 0:00 0 S  
Rule Iran 2036 2037 - Mar 21 0:00 1:00 D  
Rule Iran 2036 2037 - Sep 21 0:00 0 S

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Tehran 3:25:44 - LMT 1916

3:25:44 - TMT 1946 # Tehran Mean Time

3:30 - IRST 1977 Nov

4:00 Iran IR%sT 1979

3:30 Iran IR%sT

```

# Iraq
#
# From Jonathan Lennox (2000-06-12):
# An article in this week's Economist ("Inside the Saddam-free zone", p. 50 in
# the U.S. edition) on the Iraqi Kurds contains a paragraph:
# "The three northern
# provinces ... switched their clocks this spring and
# are an hour ahead of Baghdad."
#
# But Rives McDow (2000-06-18) quotes a contact in Iraqi-Kurdistan as follows:
# In the past, some Kurdish nationalists, as a protest to the Iraqi
# Government, did not adhere to daylight saving time. They referred
# to daylight saving as Saddam time. But, as of today, the time zone
# in Iraqi-Kurdistan is on standard time with Baghdad, Iraq.
#
# So we'll ignore the Economist's claim.

# From Steffen Thorsen (2008-03-10):
# The cabinet in Iraq abolished DST last week, according to the following
# news sources (in Arabic):
# <a href="http://www.aljeeran.net/wesima_articles/news-20080305-98602.html">
# http://www.aljeeran.net/wesima_articles/news-20080305-98602.html
# </a>
# <a
# href="http://www.aswataliraq.info/look/article.tpl?id=2047&IdLanguage=17&IdPublication=4&NrArticle=71743&
# NrIssue=1&NrSection=10">
#
# http://www.aswataliraq.info/look/article.tpl?id=2047&IdLanguage=17&IdPublication=4&NrArticle=71743&NrIssu
# e=1&NrSection=10
#
# </a>
#
# We have published a short article in English about the change:
# <a href="http://www.timeanddate.com/news/time/iraq-dumps-daylight-saving.html">
# http://www.timeanddate.com/news/time/iraq-dumps-daylight-saving.html
# </a>

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Iraq 1982 only - May 1 0:00 1:00 D
Rule Iraq 1982 1984 - Oct 1 0:00 0 S
Rule Iraq 1983 only - Mar 31 0:00 1:00 D
Rule Iraq 1984 1985 - Apr 1 0:00 1:00 D
Rule Iraq 1985 1990 - Sep lastSun 1:00s 0 S
Rule Iraq 1986 1990 - Mar lastSun 1:00s 1:00 D
# IATA SSIM (1991/1996) says Apr 1 12:01am UTC; guess the `:01' is a typo.
# Shanks & Pottenger say Iraq did not observe DST 1992/1997; ignore this.
#
# Rule Iraq 1991 2007 - Apr 1 3:00s 1:00 D

```

Rule Iraq 1991 2007 - Oct 1 3:00s 0 S  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Baghdad 2:57:40 - LMT 1890  
2:57:36 - BMT 1918 # Baghdad Mean Time?  
3:00 - AST 1982 May  
3:00 Iraq A%sT

#####

#

Israel

# From Ephraim Silverberg (2001-01-11):

#

# I coined "IST/IDT" circa 1988. Until then there were three  
# different abbreviations in use:

#

# JST Jerusalem Standard Time [Danny Braniss, Hebrew University]

# IZT Israel Zonal (sic) Time [Prof. Haim Papo, Technion]

# EEST Eastern Europe Standard Time [used by almost everyone else]

#

# Since timezones should be called by country and not capital cities,  
# I ruled out JST. As Israel is in Asia Minor and not Eastern Europe,  
# EEST was equally unacceptable. Since "zonal" was not compatible with  
# any other timezone abbreviation, I felt that 'IST' was the way to go  
# and, indeed, it has received almost universal acceptance in timezone  
# settings in Israeli computers.

#

# In any case, I am happy to share timezone abbreviations with India,  
# high on my favorite-country list (and not only because my wife's  
# family is from India).

# From Shanks & Pottenger:

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Zion 1940 only - Jun

1 0:00 1:00 D

Rule Zion 1942 1944 - Nov 1 0:00 0 S

Rule Zion 1943 only - Apr 1 2:00 1:00 D

Rule Zion 1944 only - Apr 1 0:00 1:00 D

Rule Zion 1945 only - Apr 16 0:00 1:00 D

Rule Zion 1945 only - Nov 1 2:00 0 S

Rule Zion 1946 only - Apr 16 2:00 1:00 D

Rule Zion 1946 only - Nov 1 0:00 0 S

Rule Zion 1948 only - May 23 0:00 2:00 DD

Rule Zion 1948 only - Sep 1 0:00 1:00 D

Rule Zion 1948 1949 - Nov 1 2:00 0 S

Rule Zion 1949 only - May 1 0:00 1:00 D

Rule Zion 1950 only - Apr 16 0:00 1:00 D  
Rule Zion 1950 only - Sep 15 3:00 0 S  
Rule Zion 1951 only - Apr 1 0:00 1:00 D  
Rule Zion 1951 only - Nov 11 3:00 0 S  
Rule Zion 1952 only - Apr 20 2:00 1:00 D  
Rule Zion 1952 only - Oct 19 3:00 0 S  
Rule Zion 1953 only - Apr 12 2:00 1:00 D  
Rule Zion 1953 only - Sep 13 3:00 0 S  
Rule Zion 1954 only - Jun 13 0:00 1:00 D  
Rule Zion 1954 only - Sep 12 0:00 0 S  
Rule Zion 1955 only - Jun 11 2:00 1:00 D  
Rule Zion 1955 only - Sep 11 0:00 0 S  
Rule Zion 1956 only - Jun  
3 0:00 1:00 D  
Rule Zion 1956 only - Sep 30 3:00 0 S  
Rule Zion 1957 only - Apr 29 2:00 1:00 D  
Rule Zion 1957 only - Sep 22 0:00 0 S  
Rule Zion 1974 only - Jul 7 0:00 1:00 D  
Rule Zion 1974 only - Oct 13 0:00 0 S  
Rule Zion 1975 only - Apr 20 0:00 1:00 D  
Rule Zion 1975 only - Aug 31 0:00 0 S  
Rule Zion 1985 only - Apr 14 0:00 1:00 D  
Rule Zion 1985 only - Sep 15 0:00 0 S  
Rule Zion 1986 only - May 18 0:00 1:00 D  
Rule Zion 1986 only - Sep 7 0:00 0 S  
Rule Zion 1987 only - Apr 15 0:00 1:00 D  
Rule Zion 1987 only - Sep 13 0:00 0 S  
Rule Zion 1988 only - Apr 9 0:00 1:00 D  
Rule Zion 1988 only - Sep 3 0:00 0 S

# From Ephraim Silverberg

# (1997-03-04, 1998-03-16, 1998-12-28, 2000-01-17, 2000-07-25, 2004-12-22,  
# and 2005-02-17):

# According to the Office of the Secretary General of the Ministry of  
# Interior, there is NO set rule for Daylight-Savings/Standard time changes.  
# One thing is entrenched in law, however: that there must be at least 150  
# days of daylight savings time annually. From 1993-1998,  
# the change to  
# daylight savings time was on a Friday morning from midnight IST to  
# 1 a.m. IDT; up until 1998, the change back to standard time was on a  
# Saturday night from midnight daylight savings time to 11 p.m. standard  
# time. 1996 is an exception to this rule where the change back to standard  
# time took place on Sunday night instead of Saturday night to avoid  
# conflicts with the Jewish New Year. In 1999, the change to  
# daylight savings time was still on a Friday morning but from  
# 2 a.m. IST to 3 a.m. IDT; furthermore, the change back to standard time  
# was also on a Friday morning from 2 a.m. IDT to 1 a.m. IST for

# 1999 only. In the year 2000, the change to daylight savings time was  
# similar to 1999, but although the change back will be on a Friday, it  
# will take place from 1 a.m. IDT to midnight IST. Starting in 2001, all  
# changes to/from will take place at 1 a.m. old time, but now there is no  
# rule as to what day of the week it will take place in as the  
start date  
# (except in 2003) is the night after the Passover Seder (i.e. the eve  
# of the 16th of Nisan in the lunar Hebrew calendar) and the end date  
# (except in 2002) is three nights before Yom Kippur [Day of Atonement]  
# (the eve of the 7th of Tishrei in the lunar Hebrew calendar).

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Zion 1989 only - Apr 30 0:00 1:00 D  
Rule Zion 1989 only - Sep 3 0:00 0 S  
Rule Zion 1990 only - Mar 25 0:00 1:00 D  
Rule Zion 1990 only - Aug 26 0:00 0 S  
Rule Zion 1991 only - Mar 24 0:00 1:00 D  
Rule Zion 1991 only - Sep 1 0:00 0 S  
Rule Zion 1992 only - Mar 29 0:00 1:00 D  
Rule Zion 1992 only - Sep 6 0:00 0 S  
Rule Zion 1993 only - Apr 2 0:00 1:00 D  
Rule Zion 1993 only - Sep 5 0:00 0 S

# The dates for 1994-1995 were obtained from Office of the Spokeswoman for the  
# Ministry of Interior, Jerusalem, Israel. The spokeswoman can be reached by  
# calling the office directly at 972-2-6701447 or 972-2-6701448.

# Rule NAME FROM TO TYPE IN  
ON AT SAVE LETTER/S

Rule Zion 1994 only - Apr 1 0:00 1:00 D  
Rule Zion 1994 only - Aug 28 0:00 0 S  
Rule Zion 1995 only - Mar 31 0:00 1:00 D  
Rule Zion 1995 only - Sep 3 0:00 0 S

# The dates for 1996 were determined by the Minister of Interior of the  
# time, Haim Ramon. The official announcement regarding 1996-1998  
# (with the dates for 1997-1998 no longer being relevant) can be viewed at:

#  
# <ftp://ftp.cs.huji.ac.il/pub/tz/announcements/1996-1998.ramon.ps.gz>  
#

# The dates for 1997-1998 were altered by his successor, Rabbi Eli Suissa.  
#

# The official announcements for the years 1997-1999 can be viewed at:  
#

# <ftp://ftp.cs.huji.ac.il/pub/tz/announcements/YYYY.ps.gz>  
#  
# where YYYY is the relevant year.



# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Zion 1996 only - Mar 15 0:00 1:00 D

Rule Zion 1996 only - Sep 16 0:00 0 S

Rule Zion 1997 only - Mar 21 0:00 1:00 D

Rule Zion 1997 only - Sep 14 0:00 0 S

Rule Zion 1998 only - Mar 20 0:00 1:00 D

Rule Zion 1998 only - Sep

6 0:00 0 S

Rule Zion 1999 only - Apr 2 2:00 1:00 D

Rule Zion 1999 only - Sep 3 2:00 0 S

# The Knesset Interior Committee has changed the dates for 2000 for

# the third time in just over a year and have set new dates for the

# years 2001-2004 as well.

#

# The official announcement for the start date of 2000 can be viewed at:

#

# <ftp://ftp.cs.huji.ac.il/pub/tz/announcements/2000-start.ps.gz>

#

# The official announcement for the end date of 2000 and the dates

# for the years 2001-2004 can be viewed at:

#

# <ftp://ftp.cs.huji.ac.il/pub/tz/announcements/2000-2004.ps.gz>

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Zion 2000 only - Apr 14 2:00 1:00 D

Rule Zion 2000 only - Oct 6 1:00 0 S

Rule Zion 2001 only - Apr 9 1:00 1:00 D

Rule Zion 2001 only - Sep 24 1:00 0 S

Rule Zion 2002 only - Mar 29 1:00 1:00 D

Rule Zion 2002 only - Oct 7 1:00 0 S

Rule Zion 2003 only - Mar 28 1:00 1:00 D

Rule Zion 2003 only - Oct 3 1:00 0 S

Rule Zion 2004 only - Apr 7 1:00 1:00 D

Rule Zion 2004 only - Sep 22 1:00 0 S

#

The proposed law agreed upon by the Knesset Interior Committee on

# 2005-02-14 is that, for 2005 and beyond, DST starts at 02:00 the

# last Friday before April 2nd (i.e. the last Friday in March or April

# 1st itself if it falls on a Friday) and ends at 02:00 on the Saturday

# night \_before\_ the fast of Yom Kippur.

#

# Those who can read Hebrew can view the announcement at:

#

# <ftp://ftp.cs.huji.ac.il/pub/tz/announcements/2005+beyond.ps>

# From Paul Eggert (2012-10-26):

```

# I used Ephraim Silverberg's dst-israel.el program
# <ftp://ftp.cs.huji.ac.il/pub/tz/software/dst-israel.el> (2005-02-20)
# along with Ed Reingold's cal-hebrew in GNU Emacs 21.4,
# to generate the transitions from 2005 through 2012.
# (I replaced "lastFri" with "Fri>=26" by hand.)
# The spring transitions all correspond to the following Rule:
#
# Rule Zion 2005 2012 - Mar Fri>=26 2:00 1:00 D
#
# but older zic implementations (e.g., Solaris 8) do not support
# "Fri>=26" to mean April 1 in
# years like 2005, so for now we list the
# springtime transitions explicitly.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Zion 2005 only - Apr 1 2:00 1:00 D
Rule Zion 2005 only - Oct 9 2:00 0 S
Rule Zion 2006 2010 - Mar Fri>=26 2:00 1:00 D
Rule Zion 2006 only - Oct 1 2:00 0 S
Rule Zion 2007 only - Sep 16 2:00 0 S
Rule Zion 2008 only - Oct 5 2:00 0 S
Rule Zion 2009 only - Sep 27 2:00 0 S
Rule Zion 2010 only - Sep 12 2:00 0 S
Rule Zion 2011 only - Apr 1 2:00 1:00 D
Rule Zion 2011 only - Oct 2 2:00 0 S
Rule Zion 2012 only - Mar Fri>=26 2:00 1:00 D
Rule Zion 2012 only - Sep 23 2:00 0 S

# From Ephraim Silverberg (2012-10-18):
# Yesterday, the Interior Ministry Committee, after more than a year
# past, approved sending the proposed June 2011 changes to the Time
# Decree Law back to the Knesset for second and third (final) votes
# before the upcoming elections on Jan. 22, 2013. Hence, although the
# changes are not yet law, they are expected to be so before February 2013.
#
#
# As of 2013, DST starts at 02:00 on the Friday before the last Sunday in March.
# DST ends at 02:00 on the first Sunday after October 1, unless it occurs on the
# second day of the Jewish Rosh Hashana holiday, in which case DST ends a day
# later (i.e. at 02:00 the first Monday after October 2).
# [Rosh Hashana holidays are factored in until 2100.]

# From Ephraim Silverberg (2012-11-05):
# The Knesset passed today (in second and final readings) the amendment to the
# Time Decree Law making the changes ... law.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Zion 2013 max - Mar Fri>=23 2:00 1:00 D

```

```

Rule Zion 2013 2026 - Oct Sun>=2 2:00 0 S
Rule Zion 2027 only - Oct Mon>=3 2:00 0 S
Rule Zion 2028 max - Oct Sun>=2 2:00 0 S
# The following rules are commented out for now, as they break older
# versions of zic that support only signed 32-bit timestamps, i.e.,
# through 2038-01-19 03:14:07 UTC.
#Rule Zion 2028 2053 - Oct Sun>=2 2:00 0 S
#Rule Zion 2054 only - Oct Mon>=3 2:00 0 S
#Rule Zion 2055 2080 - Oct Sun>=2 2:00 0 S
#Rule Zion 2081 only - Oct Mon>=3 2:00 0 S
#Rule Zion 2082 max - Oct Sun>=2 2:00 0 S

#
Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Asia/Jerusalem 2:20:56 - LMT 1880
    2:20:40 - JMT 1918 # Jerusalem Mean Time?
    2:00 Zion I%ST

#####

# Japan

# `9:00' and `JST' is from Guy Harris.

# From Paul Eggert (1995-03-06):
# Today's _Asahi Evening News_ (page 4) reports that Japan had
# daylight saving between 1948 and 1951, but ``the system was discontinued
# because the public believed it would lead to longer working hours."

# From Mayumi Negishi in the 2005-08-10 Japan Times
# <http://www.japantimes.co.jp/cgi-bin/getarticle.pl5?nn20050810f2.htm>:
# Occupation authorities imposed daylight-saving time on Japan on
# [1948-05-01].... But lack of prior debate and the execution of
# daylight-saving time just three days after the bill was passed generated
# deep hatred of the concept....
# The Diet unceremoniously passed a bill to
# dump the unpopular system in October 1951, less than a month after the San
# Francisco Peace Treaty was signed. (A government poll in 1951 showed 53%
# of the Japanese wanted to scrap daylight-saving time, as opposed to 30% who
# wanted to keep it.)

# From Paul Eggert (2006-03-22):
# Shanks & Pottenger write that DST in Japan during those years was as follows:
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Japan 1948 only - May Sun>=1 2:00 1:00 D
Rule Japan 1948 1951 - Sep Sat>=8 2:00 0 S

```

Rule Japan 1949 only - Apr Sun>=1 2:00 1:00 D

Rule Japan 1950 1951 - May Sun>=1 2:00 1:00 D

# but the only locations using it (for birth certificates, presumably, since  
# their audience is astrologers) were US military bases. For now, assume  
# that for most purposes daylight-saving time was observed; otherwise, what  
# would have been the point of the 1951 poll?

# From Hideyuki Suzuki (1998-11-09):

# 'Tokyo' usually stands for the former location  
of Tokyo Astronomical

# Observatory: E 139 44' 40".90 (9h 18m 58s.727), N 35 39' 16".0.

# This data is from 'Rika Nenpyou (Chronological Scientific Tables) 1996'

# edited by National Astronomical Observatory of Japan...

# JST (Japan Standard Time) has been used since 1888-01-01 00:00 (JST).

# The law is enacted on 1886-07-07.

# From Hideyuki Suzuki (1998-11-16):

# The ordinance No. 51 (1886) established "standard time" in Japan,

# which stands for the time on E 135 degree.

# In the ordinance No. 167 (1895), "standard time" was renamed to "central  
# standard time". And the same ordinance also established "western standard  
# time", which stands for the time on E 120 degree.... But "western standard  
# time" was abolished in the ordinance No. 529 (1937). In the ordinance No.  
# 167, there is no mention regarding for what place western standard time is  
# standard....

#

# I wrote "ordinance" above, but I don't know how to translate.

# In Japanese it's "chokurei", which means ordinance  
from emperor.

# Shanks & Pottenger claim JST in use since 1896, and that a few

# places (e.g. Ishigaki) use +0800; go with Suzuki. Guess that all

# ordinances took effect on Jan 1.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Tokyo 9:18:59 - LMT 1887 Dec 31 15:00u

9:00 - JST 1896

9:00 - CJT 1938

9:00 Japan J%ST

# Since 1938, all Japanese possessions have been like Asia/Tokyo.

# Jordan

#

# From <http://star.arabia.com/990701/JO9.html>>

# Jordan Week (1999-07-01) </a> via Steffen Thorsen (1999-09-09):

# Clocks in Jordan were forwarded one hour on Wednesday at midnight,

# in accordance with the government's decision to implement summer time

# all year round.

#  
# From <http://star.arabia.com/990930/JO9.html>>  
# Jordan Week (1999-09-30) </a> via Steffen Thorsen (1999-11-09):  
# Winter time starts today Thursday, 30 September. Clocks will be turned back  
# by one hour. This is the latest government decision and it's final!  
# The decision was taken because  
# of the increase in working hours in  
# government's departments from six to seven hours.  
#  
# From Paul Eggert (2005-11-22):  
# Starting 2003 transitions are from Steffen Thorsen's web site timeanddate.com.  
#  
# From Steffen Thorsen (2005-11-23):  
# For Jordan I have received multiple independent user reports every year  
# about DST end dates, as the end-rule is different every year.  
#  
# From Steffen Thorsen (2006-10-01), after a heads-up from Hilal Malawi:  
# <http://www.petranews.gov.jo/nepras/2006/Sep/05/4000.htm>  
# "Jordan will switch to winter time on Friday, October 27".  
#  
  
# From Phil Pizzey (2009-04-02):  
# ...I think I may have spotted an error in the timezone data for  
# Jordan.  
# The current (2009d) asia file shows Jordan going to daylight  
# saving  
# time on the last Thursday in March.  
#  
# Rule Jordan 2000 max - Mar lastThu 0:00s 1:00 S  
#  
# However timeanddate.com, which I usually find reliable, shows Jordan  
# going to daylight saving time on the last Friday in March  
# since 2002.  
# Please see  
# <http://www.timeanddate.com/worldclock/timezone.html?n=11>>  
# <http://www.timeanddate.com/worldclock/timezone.html?n=11>  
# </a>  
  
# From Steffen Thorsen (2009-04-02):  
# This single one might be good enough, (2009-03-24, Arabic):  
# <http://petra.gov.jo/Artical.aspx?Lng=2&Section=8&Artical=95279>>  
# <http://petra.gov.jo/Artical.aspx?Lng=2&Section=8&Artical=95279>  
# </a>  
#  
# Google's translation:  
#  
# > The Council of Ministers decided in 2002 to adopt the principle of timely  
# > submission of the summer at 60 minutes as of midnight on the last Thursday

# > of the month of March of each year.  
#  
# So - this means the midnight between Thursday and Friday since 2002.

# From Arthur David Olson (2009-04-06):  
# We still have Jordan switching to DST on Thursdays in 2000 and 2001.

# From Steffen Thorsen (2012-10-25):  
# Yesterday the government in Jordan announced that they will not  
# switch back to standard time this winter, so they will stay on DST  
# until  
about the same time next year (at least).  
# [http://www.petra.gov.jo/Public\\_News/Nws\\_NewsDetails.aspx?NewsID=88950](http://www.petra.gov.jo/Public_News/Nws_NewsDetails.aspx?NewsID=88950)  
#  
# From Paul Eggert (2012-10-25):  
# For now, assume this is just a one-year measure. If it becomes  
# permanent, we should move Jordan from EET to AST effective tomorrow.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Jordan 1973 only - Jun 6 0:00 1:00 S  
Rule Jordan 1973 1975 - Oct 1 0:00 0 -  
Rule Jordan 1974 1977 - May 1 0:00 1:00 S  
Rule Jordan 1976 only - Nov 1 0:00 0 -  
Rule Jordan 1977 only - Oct 1 0:00 0 -  
Rule Jordan 1978 only - Apr 30 0:00 1:00 S  
Rule Jordan 1978 only - Sep 30 0:00 0 -  
Rule Jordan 1985 only - Apr 1 0:00 1:00 S  
Rule Jordan 1985 only - Oct 1 0:00 0 -  
Rule Jordan 1986 1988 - Apr Fri>=1 0:00 1:00 S  
Rule Jordan 1986 1990 - Oct Fri>=1 0:00 0 -  
Rule Jordan 1989 only - May 8 0:00 1:00 S  
Rule Jordan 1990 only - Apr 27 0:00 1:00 S  
Rule Jordan 1991 only - Apr 17 0:00 1:00 S  
Rule Jordan 1991 only - Sep 27 0:00 0 -  
Rule Jordan 1992 only - Apr 10 0:00 1:00 S  
Rule Jordan 1992 1993 - Oct Fri>=1 0:00 0 -  
Rule Jordan 1993 1998 - Apr Fri>=1 0:00 1:00 S  
Rule Jordan 1994 only - Sep Fri>=15 0:00 0 -  
Rule Jordan 1995 1998 - Sep Fri>=15 0:00s 0 -  
Rule Jordan 1999 only - Jul  
1 0:00s 1:00 S  
Rule Jordan 1999 2002 - Sep lastFri 0:00s 0 -  
Rule Jordan 2000 2001 - Mar lastThu 0:00s 1:00 S  
Rule Jordan 2002 max - Mar lastThu 24:00 1:00 S  
Rule Jordan 2003 only - Oct 24 0:00s 0 -  
Rule Jordan 2004 only - Oct 15 0:00s 0 -  
Rule Jordan 2005 only - Sep lastFri 0:00s 0 -  
Rule Jordan 2006 2011 - Oct lastFri 0:00s 0 -

Rule Jordan 2013 max - Oct lastFri 0:00s 0 -  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Amman 2:23:44 - LMT 1931  
2:00 Jordan EE%sT

# Kazakhstan

# From Paul Eggert (1996-11-22):  
# Andrew Evtichov (1996-04-13) writes that Kazakhstan  
# stayed in sync with Moscow after 1990, and that Aqtobe (formerly Aktyubinsk)  
# and Aqtau (formerly Shevchenko) are the largest cities in their zones.  
# Guess that Aqtau and Aqtobe diverged in 1995, since that's  
# the first time  
# IATA SSIM mentions a third time zone in Kazakhstan.

# From Paul Eggert (2006-03-22):  
# German Iofis, ELSI, Almaty (2001-10-09) reports that Kazakhstan uses  
# RussiaAsia rules, instead of switching at 00:00 as the IATA has it.  
# Go with Shanks & Pottenger, who have them always using RussiaAsia rules.  
# Also go with the following claims of Shanks & Pottenger:  
#  
# - Kazakhstan did not observe DST in 1991.  
# - Qyzylorda switched from +5:00 to +6:00 on 1992-01-19 02:00.  
# - Oral switched from +5:00 to +4:00 in spring 1989.

# <a href="http://www.kazsociety.org.uk/news/2005/03/30.htm">  
# From Kazakhstan Embassy's News Bulletin #11 (2005-03-21):  
# </a>  
# The Government of Kazakhstan passed a resolution March 15 abolishing  
# daylight saving time citing lack of economic benefits and health  
# complications coupled with a decrease in productivity.  
#

# From Branislav Kojic (in Astana) via Gwillim Law (2005-06-28):  
# ... what happened was that the former Kazakhstan Eastern time  
# zone  
# was "blended" with the Central zone. Therefore, Kazakhstan now has  
# two time zones, and difference between them is one hour. The zone  
# closer to UTC is the former Western zone (probably still called the  
# same), encompassing four provinces in the west: Aqtobe, Atyrau,  
# Mangghystau, and West Kazakhstan. The other zone encompasses  
# everything else.... I guess that would make Kazakhstan time zones  
# de jure UTC+5 and UTC+6 respectively.

#  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
#  
# Almaty (formerly Alma-Ata), representing most locations in Kazakhstan

Zone Asia/Almaty 5:07:48 - LMT 1924 May 2 # or Alma-Ata  
 5:00 - ALMT 1930 Jun 21 # Alma-Ata Time  
 6:00 RussiaAsia ALM%ST 1991  
 6:00 - ALMT 1992  
 6:00 RussiaAsia ALM%ST 2005 Mar 15  
 6:00 - ALMT  
 # Qyzylorda (aka Kyzylorda, Kizilorda, Kzyl-Orda, etc.)  
 Zone Asia/Qyzylorda 4:21:52 - LMT 1924 May 2  
 4:00 - KIZT 1930 Jun 21 # Kizilorda Time  
 5:00 - KIZT 1981 Apr 1  
 5:00 1:00 KIZST 1981 Oct 1  
 6:00 - KIZT 1982  
 Apr 1  
 5:00 RussiaAsia KIZ%ST 1991  
 5:00 - KIZT 1991 Dec 16 # independence  
 5:00 - QYZT 1992 Jan 19 2:00  
 6:00 RussiaAsia QYZ%ST 2005 Mar 15  
 6:00 - QYZT  
 # Aqtobe (aka Aktobe, formerly Akt'ubinsk)  
 Zone Asia/Aqtobe 3:48:40 - LMT 1924 May 2  
 4:00 - AKTT 1930 Jun 21 # Aktyubinsk Time  
 5:00 - AKTT 1981 Apr 1  
 5:00 1:00 AKTST 1981 Oct 1  
 6:00 - AKTT 1982 Apr 1  
 5:00 RussiaAsia AKT%ST 1991  
 5:00 - AKTT 1991 Dec 16 # independence  
 5:00 RussiaAsia AQT%ST 2005 Mar 15 # Aqtobe Time  
 5:00 - AQTT  
 # Mangghystau  
 # Aqtau was not founded until 1963, but it represents an inhabited region,  
 # so include time stamps before 1963.  
 Zone Asia/Aqtau 3:21:04 - LMT 1924 May 2  
 4:00 - FORT 1930 Jun 21 # Fort Shevchenko T  
 5:00 - FORT 1963  
 5:00 - SHET 1981 Oct 1 # Shevchenko Time  
 6:00 - SHET 1982 Apr 1  
 5:00 RussiaAsia SHE%ST 1991  
 5:00 - SHET 1991 Dec 16 # independence  
 5:00 RussiaAsia AQT%ST 1995 Mar lastSun 2:00 # Aqtau Time  
 4:00 RussiaAsia AQT%ST 2005 Mar 15  
 5:00 - AQTT  
 #  
 West Kazakhstan  
 Zone Asia/Oral 3:25:24 - LMT 1924 May 2 # or Ural'sk  
 4:00 - URAT 1930 Jun 21 # Ural'sk time  
 5:00 - URAT 1981 Apr 1  
 5:00 1:00 URAST 1981 Oct 1  
 6:00 - URAT 1982 Apr 1



5:00 RussiaAsia URA%ST 1989 Mar 26 2:00  
4:00 RussiaAsia URA%ST 1991  
4:00 - URAT 1991 Dec 16 # independence  
4:00 RussiaAsia ORA%ST 2005 Mar 15 # Oral Time  
5:00 - ORAT

# Kyrgyzstan (Kirgizstan)  
# Transitions through 1991 are from Shanks & Pottenger.

# From Paul Eggert (2005-08-15):  
# According to an article dated today in the Kyrgyzstan Development Gateway  
# <[http://eng.gateway.kg/cgi-bin/page.pl?id=1&story\\_name=doc9979.shtml](http://eng.gateway.kg/cgi-bin/page.pl?id=1&story_name=doc9979.shtml)>  
# Kyrgyzstan is canceling the daylight saving time system. I take the article  
# to mean that they will leave their clocks at 6 hours ahead of UTC.  
# From Malik Abdugaliyev (2005-09-21):  
# Our government cancels daylight saving time 6th of August 2005.  
# From 2005-08-12 our GMT-offset is +6, w/o any daylight saving.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Kyrgyz 1992 1996 - Apr Sun>=7 0:00s 1:00 S  
Rule Kyrgyz 1992 1996 - Sep lastSun 0:00 0 -  
Rule Kyrgyz 1997 2005 - Mar lastSun 2:30 1:00 S  
Rule Kyrgyz 1997 2004 - Oct lastSun 2:30 0 -  
#

Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Bishkek 4:58:24 - LMT 1924 May 2  
5:00 - FRUT 1930 Jun 21 # Frunze Time  
6:00 RussiaAsia FRU%ST 1991 Mar 31 2:00s  
5:00 1:00 FRUST 1991 Aug 31 2:00 # independence  
5:00 Kyrgyz KG%ST 2005 Aug 12 # Kyrgyzstan Time  
6:00 - KGT

#####

# Korea (North and South)

# From Annie I. Bang (2006-07-10) in  
# <[http://www.koreaherald.co.kr/SITE/data/html\\_dir/2006/07/10/200607100012.asp](http://www.koreaherald.co.kr/SITE/data/html_dir/2006/07/10/200607100012.asp)>:  
# The Ministry of Commerce, Industry and Energy has already  
# commissioned a research project [to reintroduce DST] and has said  
# the system may begin as early as 2008.... Korea ran a daylight  
# saving program from 1949-61 but stopped it during the 1950-53 Korean War.

#  
From Shanks & Pottenger:  
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule ROK 1960 only - May 15 0:00 1:00 D  
Rule ROK 1960 only - Sep 13 0:00 0 S

Rule ROK 1987 1988 - May Sun>=8 0:00 1:00 D

Rule ROK 1987 1988 - Oct Sun>=8 0:00 0 S

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Seoul 8:27:52 - LMT 1890

8:30 - KST 1904 Dec

9:00 - KST 1928

8:30 - KST 1932

9:00 - KST 1954 Mar 21

8:00 ROK K%sT 1961 Aug 10

8:30 - KST 1968 Oct

9:00 ROK K%sT

Zone Asia/Pyongyang 8:23:00 - LMT 1890

8:30 - KST 1904 Dec

9:00 - KST 1928

8:30 - KST 1932

9:00 - KST 1954 Mar 21

8:00 - KST 1961 Aug 10

9:00 - KST

#####

# Kuwait

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

# From the Arab Times (2007-03-14):

# The Civil Service Commission (CSC) has approved a proposal forwarded

# by MP Ahmad Baqer on implementing the daylight saving time (DST) in

# Kuwait starting from April until the end of Sept this

year, reports Al-Anba.

# <<http://www.arabtimesonline.com/arabtimes/kuwait/Viewdet.asp?ID=9950>>.

# From Paul Eggert (2007-03-29):

# We don't know the details, or whether the approval means it'll happen,

# so for now we assume no DST.

Zone Asia/Kuwait 3:11:56 - LMT 1950

3:00 - AST

# Laos

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Vientiane 6:50:24 - LMT 1906 Jun 9 # or Viangchan

7:06:20 - SMT 1911 Mar 11 0:01 # Saigon MT?

7:00 - ICT 1912 May

8:00 - ICT 1931 May

7:00 - ICT

# Lebanon

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Lebanon 1920 only - Mar 28 0:00 1:00 S

Rule Lebanon 1920 only - Oct 25 0:00 0 -

Rule Lebanon 1921 only - Apr 3 0:00 1:00 S  
 Rule Lebanon 1921 only - Oct 3 0:00 0 -  
 Rule Lebanon 1922 only - Mar 26 0:00 1:00 S  
 Rule Lebanon 1922 only - Oct 8 0:00 0 -  
 Rule Lebanon 1923 only - Apr 22 0:00 1:00 S  
 Rule Lebanon 1923 only - Sep 16 0:00 0 -  
 Rule Lebanon 1957 1961 - May 1 0:00 1:00 S  
 Rule Lebanon 1957 1961 - Oct 1 0:00 0 -  
 Rule Lebanon 1972 only - Jun 22 0:00 1:00 S  
 Rule Lebanon 1972 1977 - Oct 1 0:00 0 -  
 Rule Lebanon 1973 1977 - May 1 0:00 1:00 S  
 Rule Lebanon 1978 only - Apr 30 0:00 1:00 S  
 Rule Lebanon 1978 only - Sep 30 0:00 0 -  
 Rule Lebanon 1984 1987 - May 1 0:00 1:00 S  
 Rule Lebanon 1984 1991 - Oct 16 0:00 0 -  
 Rule Lebanon 1988 only - Jun 1 0:00 1:00 S  
 Rule Lebanon 1989 only - May 10 0:00 1:00 S  
 Rule Lebanon 1990 1992 - May 1 0:00 1:00 S  
 Rule Lebanon 1992 only - Oct 4 0:00 0 -  
 Rule Lebanon 1993 max - Mar lastSun 0:00 1:00 S  
 Rule Lebanon 1993 1998 - Sep lastSun 0:00 0 -  
 Rule Lebanon 1999 max - Oct lastSun 0:00 0 -  
 #  
 Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Asia/Beirut 2:22:00 - LMT 1880  
 2:00 Lebanon EE%sT

# Malaysia  
 # Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
 Rule NBorneo 1935 1941 - Sep 14 0:00 0:20 TS # one-Third Summer  
 Rule NBorneo 1935 1941 - Dec 14 0:00 0 -  
 #  
 # peninsular Malaysia  
 # The data here are taken from Mok Ly Yng (2003-10-30)  
 # <<http://www.math.nus.edu.sg/aslaksen/teaching/timezone.html>>.  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone  
 Asia/Kuala\_Lumpur 6:46:46 - LMT 1901 Jan 1  
 6:55:25 - SMT 1905 Jun 1 # Singapore M.T.  
 7:00 - MALT 1933 Jan 1 # Malaya Time  
 7:00 0:20 MALST 1936 Jan 1  
 7:20 - MALT 1941 Sep 1  
 7:30 - MALT 1942 Feb 16  
 9:00 - JST 1945 Sep 12  
 7:30 - MALT 1982 Jan 1  
 8:00 - MYT # Malaysia Time  
 # Sabah & Sarawak  
 # From Paul Eggert (2006-03-22):

# The data here are mostly from Shanks & Pottenger, but the 1942, 1945 and 1982  
# transition dates are from Mok Ly Yng.  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Asia/Kuching 7:21:20 - LMT 1926 Mar  
7:30 - BORT 1933 # Borneo Time  
8:00 NBorneo BOR%sT 1942 Feb 16  
9:00 - JST 1945 Sep 12  
8:00 - BORT 1982 Jan 1  
8:00 - MYT

# Maldives  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Indian/Maldives 4:54:00 - LMT 1880 # Male  
4:54:00 - MMT 1960 # Male Mean Time  
5:00 - MVT # Maldives Time

# Mongolia

# Shanks & Pottenger say that Mongolia has three time zones, but  
# usno1995 and the CIA map  
Standard Time Zones of the World (2005-03)  
# both say that it has just one.

# From Oscar van Vlijmen (1999-12-11):  
# <a href="http://www.mongoliatourism.gov.mn/general.htm">  
# General Information Mongolia  
# </a> (1999-09)  
# "Time: Mongolia has two time zones. Three westernmost provinces of  
# Bayan-Ulgii, Uvs, and Hovd are one hour earlier than the capital city, and  
# the rest of the country follows the Ulaanbaatar time, which is UTC/GMT plus  
# eight hours."

# From Rives McDow (1999-12-13):  
# Mongolia discontinued the use of daylight savings time in 1999; 1998  
# being the last year it was implemented. The dates of implementation I am  
# unsure of, but most probably it was similar to Russia, except for the time  
# of implementation may have been different....  
# Some maps in the past have indicated that there was an additional time  
# zone in the eastern part of Mongolia, including the provinces of Dornod,  
# Suhbaatar, and possibly Khentij.

# From Paul Eggert (1999-12-15):  
# Naming and  
spelling is tricky in Mongolia.  
# We'll use Hovd (also spelled Chovd and Khovd) to represent the west zone;  
# the capital of the Hovd province is sometimes called Hovd, sometimes Dund-Uv,  
# and sometimes Jirgalanta (with variant spellings), but the name Hovd  
# is good enough for our purposes.

# From Rives McDow (2001-05-13):  
# In addition to Mongolia starting daylight savings as reported earlier  
# (adopted DST on 2001-04-27 02:00 local time, ending 2001-09-28),  
# there are three time zones.  
#  
# Provinces [at 7:00]: Bayan-ulgii, Uvs, Khovd, Zavkhan, Govi-Altai  
# Provinces [at 8:00]: Khovsgol, Bulgan, Arkhangai, Khentii, Tov,  
# Bayankhongor, Ovorkhangai, Dundgovi, Dornogovi, Omnogovi  
# Provinces [at 9:00]: Dornod, Sukhbaatar  
#  
# [The province of Selenge is omitted from the above lists.]  
  
# From Ganbold Ts., Ulaanbaatar (2004-04-17):  
# Daylight saving occurs at 02:00 local time last Saturday of March.  
# It will change back to normal at 02:00 local time last Saturday of  
# September.... As  
I remember this rule was changed in 2001.  
#  
# From Paul Eggert (2004-04-17):  
# For now, assume Rives McDow's informant got confused about Friday vs  
# Saturday, and that his 2001 dates should have 1 added to them.  
  
# From Paul Eggert (2005-07-26):  
# We have wildly conflicting information about Mongolia's time zones.  
# Bill Bonnet (2005-05-19) reports that the US Embassy in Ulaanbaatar says  
# there is only one time zone and that DST is observed, citing Microsoft  
# Windows XP as the source. Risto Nykanen (2005-05-16) reports that  
# travelmongolia.org says there are two time zones (UTC+7, UTC+8) with no DST.  
# Oscar van Vlijmen (2005-05-20) reports that the Mongolian Embassy in  
# Washington, DC says there are two time zones, with DST observed.  
# He also found  
#  
<[http://ubpost.mongolnews.mn/index.php?subaction=showcomments&id=1111634894&archive=&start\\_from=&uc  
at=1&>](http://ubpost.mongolnews.mn/index.php?subaction=showcomments&id=1111634894&archive=&start_from=&uc<br/>at=1&>)  
# which also says that there is DST, and which has a comment by "Toddus"  
# (2005-03-31 06:05 +0700) saying "Mongolia actually  
has 3.5 time zones.  
# The West (OLGII) is +7 GMT, most of the country is ULAT is +8 GMT  
# and some Eastern provinces are +9 GMT but Sukhbaatar Aimag is SUHK +8.5 GMT.  
# The SUKH timezone is new this year, it is one of the few things the  
# parliament passed during the tumultuous winter session."  
# For now, let's ignore this information, until we have more confirmation.  
  
# From Ganbold Ts. (2007-02-26):  
# Parliament of Mongolia has just changed the daylight-saving rule in February.  
# They decided not to adopt daylight-saving time....  
# <http://www.mongolnews.mn/index.php?module=unuudur&sec=view&id=15742>

# From Deborah Goldsmith (2008-03-30):  
# We received a bug report claiming that the tz database UTC offset for  
# Asia/Choibalsan (GMT+09:00) is incorrect, and that it should be GMT  
# +08:00 instead. Different sources appear to disagree with the tz  
# database on this, e.g.:  
#  
# <a href="http://www.timeanddate.com/worldclock/city.html?n=1026">  
# http://www.timeanddate.com/worldclock/city.html?n=1026  
#  
# </a>  
# <a href="http://www.worldtimeserver.com/current\_time\_in\_MN.aspx">  
# http://www.worldtimeserver.com/current\_time\_in\_MN.aspx  
# </a>  
#  
# both say GMT+08:00.

# From Steffen Thorsen (2008-03-31):  
# eznis airways, which operates several domestic flights, has a flight  
# schedule here:  
# <a href="http://www.eznis.com/Container.jsp?id=112">  
# http://www.eznis.com/Container.jsp?id=112  
# </a>  
# (click the English flag for English)  
#  
# There it appears that flights between Choibalsan and Ulaanbatar arrive  
# about 1:35 - 1:50 hours later in local clock time, no matter the  
# direction, while Ulaanbaatar-Khvod takes 2 hours in the Eastern  
# direction and 3:35 back, which indicates that Ulaanbatar and Khvod are  
# in different time zones (like we know about), while Choibalsan and  
# Ulaanbatar are in the same time zone (correction needed).

# From Arthur David Olson (2008-05-19):  
# Assume that Choibalsan is indeed offset by 8:00.  
# XXX--in the absence of better information, assume  
# that transition  
# was at the start of 2008-03-31 (the day of Steffen Thorsen's report);  
# this is almost surely wrong.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Mongol 1983 1984 - Apr 1 0:00 1:00 S  
Rule Mongol 1983 only - Oct 1 0:00 0 -  
# Shanks & Pottenger and IATA SSIM say 1990s switches occurred at 00:00,  
# but McDow says the 2001 switches occurred at 02:00. Also, IATA SSIM  
# (1996-09) says 1996-10-25. Go with Shanks & Pottenger through 1998.  
#  
# Shanks & Pottenger say that the Sept. 1984 through Sept. 1990 switches  
# in Choibalsan (more precisely, in Dornod and Sukhbaatar) took place

# at 02:00 standard time, not at 00:00 local time as in the rest of  
# the country. That would be odd, and possibly is a result of their  
# correction of 02:00 (in the previous edition) not being done correctly  
# in the latest edition; so ignore it for now.

Rule Mongol 1985 1998 - Mar lastSun 0:00 1:00 S

Rule Mongol 1984 1998 - Sep lastSun 0:00 0 -

# IATA SSIM (1999-09) says Mongolia no  
longer observes DST.

Rule Mongol 2001 only - Apr lastSat 2:00 1:00 S

Rule Mongol 2001 2006 - Sep lastSat 2:00 0 -

Rule Mongol 2002 2006 - Mar lastSat 2:00 1:00 S

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

# Hovd, a.k.a. Chovd, Dund-Uus, Dzhargalant, Khovd, Jirgalanta

Zone Asia/Hovd 6:06:36 - LMT 1905 Aug

6:00 - HOVT 1978 # Hovd Time

7:00 Mongol HOV%ST

# Ulaanbaatar, a.k.a. Ulan Bataar, Ulan Bator, Urga

Zone Asia/Ulaanbaatar 7:07:32 - LMT 1905 Aug

7:00 - ULAT 1978 # Ulaanbaatar Time

8:00 Mongol ULA%ST

# Choibalsan, a.k.a. Bajan Tuemen, Bajan Tumen, Chojbalsan,

# Choybalsan, Sanbejse, Tchoibalsan

Zone Asia/Choibalsan 7:38:00 - LMT 1905 Aug

7:00 - ULAT 1978

8:00 - ULAT 1983 Apr

9:00 Mongol CHO%ST 2008 Mar 31 # Choibalsan Time

8:00 Mongol CHO%ST

# Nepal

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Kathmandu 5:41:16 - LMT 1920

5:30 - IST 1986

5:45 - NPT # Nepal Time

# Oman

# Milne says 3:54:24 was the meridian of the Muscat Tidal Observatory.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Muscat 3:54:24

- LMT 1920

4:00 - GST

# Pakistan

# From Rives McDow (2002-03-13):

# I have been advised that Pakistan has decided to adopt dst on a  
# TRIAL basis for one year, starting 00:01 local time on April 7, 2002  
# and ending at 00:01 local time October 6, 2002. This is what I was  
# told, but I believe that the actual time of change may be 00:00; the  
# 00:01 was to make it clear which day it was on.

# From Paul Eggert (2002-03-15):  
# Jesper Norgaard found this URL:  
# [http://www.pak.gov.pk/public/news/app/app06\\_dec.htm](http://www.pak.gov.pk/public/news/app/app06_dec.htm)  
# (dated 2001-12-06) which says that the Cabinet adopted a scheme "to  
# advance the clocks by one hour on the night between the first  
# Saturday and Sunday of April and revert to the original position on  
# 15th October each year". This agrees with McDow's 04-07 at 00:00,  
# but disagrees about the October transition, and makes it sound like  
# it's not on a trial basis. Also, the "between the first Saturday  
# and Sunday  
# of April" phrase, if taken literally, means that the  
# transition takes place at 00:00 on the first Sunday on or after 04-02.

# From Paul Eggert (2003-02-09):  
# DAWN <<http://www.dawn.com/2002/10/06/top13.htm>> reported on 2002-10-05  
# that 2002 DST ended that day at midnight. Go with McDow for now.

# From Steffen Thorsen (2003-03-14):  
# According to <http://www.dawn.com/2003/03/07/top15.htm>  
# there will be no DST in Pakistan this year:  
#  
# ISLAMABAD, March 6: Information and Media Development Minister Sheikh  
# Rashid Ahmed on Thursday said the cabinet had reversed a previous  
# decision to advance clocks by one hour in summer and put them back by  
# one hour in winter with the aim of saving light hours and energy.  
#  
# The minister told a news conference that the experiment had rather  
# shown 8 per cent higher consumption of electricity.

# From Alex Krivenyshev (2008-05-15):  
#  
# Here is an article that Pakistan plan to introduce Daylight Saving Time  
# on June 1, 2008 for 3 months.  
#  
#  
# "... The federal cabinet on Wednesday announced a new conservation plan to help  
# reduce load shedding by approving the closure of commercial centres at 9pm and  
# moving clocks forward by one hour for the next three months.  
# ...."  
#  
# <[http://www.worldtimezone.net/dst\\_news/dst\\_news\\_pakistan01.html](http://www.worldtimezone.net/dst_news/dst_news_pakistan01.html)>  
# [http://www.worldtimezone.net/dst\\_news/dst\\_news\\_pakistan01.html](http://www.worldtimezone.net/dst_news/dst_news_pakistan01.html)



# </a>  
# OR  
# <a href="http://www.dailytimes.com.pk/default.asp?page=2008%5C05%5C15%5Cstory\_15-5-2008\_pg1\_4">  
# http://www.dailytimes.com.pk/default.asp?page=2008%5C05%5C15%5Cstory\_15-5-2008\_pg1\_4  
# </a>

# From Arthur David Olson (2008-05-19):  
# XXX--midnight transitions is a guess; 2008 only is a guess.

# From Alexander Krivenyshev (2008-08-28):  
# Pakistan government has decided to keep the watches one-hour advanced  
# for another 2 months--plan to return to Standard Time on October 31  
# instead of August 31.  
#  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_pakistan02.html">  
# http://www.worldtimezone.com/dst\_news/dst\_news\_pakistan02.html  
#  
</a>

# OR  
# <a href="http://dailymailnews.com/200808/28/news/dmbrn03.html">  
# http://dailymailnews.com/200808/28/news/dmbrn03.html  
# </a>

# From Alexander Krivenyshev (2009-04-08):  
# Based on previous media reports that "... proposed plan to  
# advance clocks by one hour from May 1 will cause disturbance  
# to the working schedules rather than bringing discipline in  
# official working."  
# <a href="http://www.thenews.com.pk/daily\_detail.asp?id=171280">  
# http://www.thenews.com.pk/daily\_detail.asp?id=171280  
# </a>  
#  
# recent news that instead of May 2009 - Pakistan plan to  
# introduce DST from April 15, 2009  
#  
# FYI: Associated Press Of Pakistan  
# April 08, 2009  
# Cabinet okays proposal to advance clocks by one hour from April 15  
# <a href="http://www.app.com.pk/en/\_/index.php?option=com\_content&task=view&id=73043&Itemid=1">  
# http://www.app.com.pk/en/\_/index.php?option=com\_content&task=view&id=73043&Itemid=1  
# </a>  
#  
# or  
#  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_pakistan05.html">  
#  
# http://www.worldtimezone.com/dst\_news/dst\_news\_pakistan05.html  
# </a>

#  
# ....  
# The Federal Cabinet on Wednesday approved the proposal to  
# advance clocks in the country by one hour from April 15 to  
# conserve energy"

# From Steffen Thorsen (2009-09-17):  
# "The News International," Pakistan reports that: "The Federal  
# Government has decided to restore the previous time by moving the  
# clocks backward by one hour from October 1. A formal announcement to  
# this effect will be made after the Prime Minister grants approval in  
# this regard."  
# <a href="http://www.thenews.com.pk/updates.asp?id=87168">  
# http://www.thenews.com.pk/updates.asp?id=87168  
# </a>

# From Alexander Krivenyshev (2009-09-28):  
# According to Associated Press Of Pakistan, it is confirmed that  
# Pakistan clocks across the country would be turned back by an hour from October  
# 1, 2009.  
#  
# "Clocks to go back one hour from 1 Oct"  
# <a href="http://www.app.com.pk/en\_/index.php?option=com\_content&task=view&id=86715&Itemid=2">  
#  
# http://www.app.com.pk/en\_/index.php?option=com\_content&task=view&id=86715&Itemid=2  
# </a>  
# or  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_pakistan07.htm">  
# http://www.worldtimezone.com/dst\_news/dst\_news\_pakistan07.htm  
# </a>

# From Steffen Thorsen (2009-09-29):  
# Alexander Krivenyshev wrote:  
# > According to Associated Press Of Pakistan, it is confirmed that  
# > Pakistan clocks across the country would be turned back by an hour from October  
# > 1, 2009.  
#  
# Now they seem to have changed their mind, November 1 is the new date:  
# <a href="http://www.thenews.com.pk/top\_story\_detail.asp?Id=24742">  
# http://www.thenews.com.pk/top\_story\_detail.asp?Id=24742  
# </a>  
# "The country's clocks will be reversed by one hour on November 1.  
# Officials of Federal Ministry for Interior told this to Geo News on  
# Monday."  
#  
# And more importantly, it seems that these dates will be kept every year:  
# "It has now been decided that clocks

```

will be wound forward by one hour
# on April 15 and reversed by an hour on November 1 every year without
# obtaining prior approval, the officials added."
#
# We have confirmed this year's end date with both with the Ministry of
# Water and Power and the Pakistan Electric Power Company:
# <a href="http://www.timeanddate.com/news/time/pakistan-ends-dst09.html">
# http://www.timeanddate.com/news/time/pakistan-ends-dst09.html
# </a>

# From Christoph Goehre (2009-10-01):
# [T]he German Consulate General in Karachi reported me today that Pakistan
# will go back to standard time on 1st of November.

# From Steffen Thorsen (2010-03-26):
# Steffen Thorsen wrote:
# > On Thursday (2010-03-25) it was announced that DST would start in
# > Pakistan on 2010-04-01.
# >
# > Then today, the president said that they might have to revert the
# > decision if it is not supported by the parliament. So at the time
# > being, it seems unclear if DST will be actually observed or not - but
# > April 1 could
# > be a more likely date than April 15.
# Now, it seems that the decision to not observe DST in final:
#
# "Govt Withdraws Plan To Advance Clocks"
# <a href="http://www.apakistannews.com/govt-withdraws-plan-to-advance-clocks-172041">
# http://www.apakistannews.com/govt-withdraws-plan-to-advance-clocks-172041
# </a>
#
# "People laud PM's announcement to end DST"
# <a href="http://www.app.com.pk/en_/index.php?option=com_content&task=view&id=99374&Itemid=2">
# http://www.app.com.pk/en_/index.php?option=com_content&task=view&id=99374&Itemid=2
# </a>

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Pakistan 2002 only - Apr Sun>=2 0:01 1:00 S
Rule Pakistan 2002 only - Oct Sun>=2 0:01 0 -
Rule Pakistan 2008 only - Jun 1 0:00 1:00 S
Rule Pakistan 2008 only - Nov 1 0:00 0 -
Rule Pakistan 2009 only - Apr 15 0:00 1:00 S
Rule Pakistan 2009 only - Nov 1 0:00 0 -

# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone Asia/Karachi 4:28:12 - LMT 1907
5:30 - IST 1942 Sep
5:30 1:00 IST 1945 Oct 15

```

5:30 - IST 1951

Sep 30

5:00 - KART 1971 Mar 26 # Karachi Time

5:00 Pakistan PK%ST # Pakistan Time

# Palestine

# From Amos Shapir (1998-02-15):

#

# From 1917 until 1948-05-15, all of Palestine, including the parts now

# known as the Gaza Strip and the West Bank, was under British rule.

# Therefore the rules given for Israel for that period, apply there too...

#

# The Gaza Strip was under Egyptian rule between 1948-05-15 until 1967-06-05

# (except a short occupation by Israel from 1956-11 till 1957-03, but no

# time zone was affected then). It was never formally annexed to Egypt,

# though.

#

# The rest of Palestine was under Jordanian rule at that time, formally

# annexed in 1950 as the West Bank (and the word "Trans" was dropped from

# the country's previous name of "the Hashemite Kingdom of the

# Trans-Jordan"). So the rules for Jordan for that time apply. Major

# towns in that area are Nablus (Shchem), El-Halil (Hebron), Ramallah, and

# East Jerusalem.

#

# Both areas were

occupied by Israel in June 1967, but not annexed (except

# for East Jerusalem). They were on Israel time since then; there might

# have been a Military Governor's order about time zones, but I'm not aware

# of any (such orders may have been issued semi-annually whenever summer

# time was in effect, but maybe the legal aspect of time was just neglected).

#

# The Palestinian Authority was established in 1993, and got hold of most

# towns in the West Bank and Gaza by 1995. I know that in order to

# demonstrate...independence, they have been switching to

# summer time and back on a different schedule than Israel's, but I don't

# know when this was started, or what algorithm is used (most likely the

# Jordanian one).

#

# To summarize, the table should probably look something like that:

#

# Area \ when | 1918-1947 | 1948-1967 | 1967-1995 | 1996-

# -----+-----+-----+-----+-----

# Israel | Zion | Zion | Zion | Zion

# West bank | Zion

| Jordan | Zion | Jordan

# Gaza | Zion | Egypt | Zion | Jordan

#

# I guess more info may be available from the PA's web page (if/when they  
# have one).

# From Paul Eggert (2006-03-22):

# Shanks & Pottenger write that Gaza did not observe DST until 1957, but go  
# with Shapir and assume that it observed DST from 1940 through 1947,  
# and that it used Jordanian rules starting in 1996.

# We don't yet need a separate entry for the West Bank, since  
# the only differences between it and Gaza that we know about  
# occurred before our cutoff date of 1970.

# However, as we get more information, we may need to add entries  
# for parts of the West Bank as they transitioned from Israel's rules  
# to Palestine's rules.

# From IINS News Service - Israel - 1998-03-23 10:38:07 Israel time,  
# forwarded by Ephraim Silverberg:

#

# Despite the fact that Israel changed over to daylight savings time  
# last week, the PLO Authority (PA) has decided not to turn its clocks  
# one-hour forward  
# at this time. As a sign of independence from Israeli rule,  
# the PA has decided to implement DST in April.

# From Paul Eggert (1999-09-20):

# Daoud Kuttab writes in

#

# Holiday havoc

#  [\(Jerusalem Post, 1999-04-22\) that](http://www.jpost.com/com/Archive/22.Apr.1999/Opinion/Article-2.html)

# the Palestinian National Authority changed to DST on 1999-04-15.

# I vaguely recall that they switch back in October (sorry, forgot the source).

# For now, let's assume that the spring switch was at 24:00,

# and that they switch at 0:00 on the 3rd Fridays of April and October.

# From Paul Eggert (2005-11-22):

# Starting 2004 transitions are from Steffen Thorsen's web site [timeanddate.com](http://timeanddate.com).

# From Steffen Thorsen (2005-11-23):

# A user from Gaza reported that Gaza made the change early because of

# the Ramadan. Next year Ramadan will be even earlier, so I think

# there is a good chance next year's end date will be around two weeks

# earlier--the same goes for Jordan.

# From Steffen

Thorsen (2006-08-17):

# I was informed by a user in Bethlehem that in Bethlehem it started the

# same day as Israel, and after checking with other users in the area, I

# was informed that they started DST one day after Israel. I was not

# able to find any authoritative sources at the time, nor details if

# Gaza changed as well, but presumed Gaza to follow the same rules as  
# the West Bank.

# From Steffen Thorsen (2006-09-26):  
# according to the Palestine News Network (2006-09-19):  
# [http://english.pnn.ps/index.php?option=com\\_content&task=view&id=596&Itemid=5](http://english.pnn.ps/index.php?option=com_content&task=view&id=596&Itemid=5)  
# > The Council of Ministers announced that this year its winter schedule  
# > will begin early, as of midnight Thursday. It is also time to turn  
# > back the clocks for winter. Friday will begin an hour late this week.  
# I guess it is likely that next year's date will be moved as well,  
# because of the Ramadan.

# From Jesper Norgaard Welen (2007-09-18):  
# According to Steffen Thorsen's web site the Gaza Strip and the rest  
# of the  
# Palestinian territories left DST early on 13.th. of September at 2:00.

# From Paul Eggert (2007-09-20):  
# My understanding is that Gaza and the West Bank disagree even over when  
# the weekend is (Thursday+Friday versus Friday+Saturday), so I'd be a bit  
# surprised if they agreed about DST. But for now, assume they agree.  
# For lack of better information, predict that future changes will be  
# the 2nd Thursday of September at 02:00.

# From Alexander Krivenyshev (2008-08-28):  
# Here is an article, that Mideast running on different clocks at Ramadan.  
#  
# Gaza Strip (as Egypt) ended DST at midnight Thursday (Aug 28, 2008), while  
# the West Bank will end Daylight Saving Time at midnight Sunday (Aug 31, 2008).  
#  
# <a href="http://www.guardian.co.uk/world/feedarticle/7759001">  
# <http://www.guardian.co.uk/world/feedarticle/7759001>  
# </a>  
# <a href="http://www.abcnews.go.com/International/wireStory?id=5676087">  
# <http://www.abcnews.go.com/International/wireStory?id=5676087>  
# </a>  
#  
# or  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_gazastrip01.html">  
# [http://www.worldtimezone.com/dst\\_news/dst\\_news\\_gazastrip01.html](http://www.worldtimezone.com/dst_news/dst_news_gazastrip01.html)  
# </a>

# From Alexander Krivenyshev (2009-03-26):  
# According to the Palestine News Network (arabic.pnn.ps), Palestinian  
# government decided to start Daylight Time on Thursday night March  
# 26 and continue until the night of 27 September 2009.  
#  
# (in Arabic)

# <a href="http://arabic.pnn.ps/index.php?option=com\_content&task=view&id=50850">  
# http://arabic.pnn.ps/index.php?option=com\_content&task=view&id=50850  
# </a>  
#  
# or  
# (English translation)  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_westbank01.html">  
# http://www.worldtimezone.com/dst\_news/dst\_news\_westbank01.html  
# </a>

# From Steffen Thorsen (2009-08-31):  
# Palestine's Council of Ministers announced that they will revert back to  
# winter time on Friday, 2009-09-04.  
#  
# One news source:  
# <a href="http://www.safa.ps/ara/?action=showdetail&seid=4158">  
# http://www.safa.ps/ara/?action=showdetail&seid=4158  
#  
# </a>  
# (Palestinian press agency, Arabic),  
# Google translate: "Decided that the Palestinian government in Ramallah  
# headed by Salam Fayyad, the start of work in time for the winter of  
# 2009, starting on Friday approved the fourth delay Sept. clock sixty  
# minutes per hour as of Friday morning."  
#  
# We are not sure if Gaza will do the same, last year they had a different  
# end date, we will keep this page updated:  
# <a href="http://www.timeanddate.com/news/time/westbank-gaza-dst-2009.html">  
# http://www.timeanddate.com/news/time/westbank-gaza-dst-2009.html  
# </a>

# From Alexander Krivenyshev (2009-09-02):  
# Seems that Gaza Strip will go back to Winter Time same date as West Bank.  
#  
# According to Palestinian Ministry Of Interior, West Bank and Gaza Strip plan  
# to change time back to Standard time on September 4, 2009.  
#  
# "Winter time unite the West Bank and Gaza"  
# (from Palestinian National Authority):  
# <a href="http://www.moi.gov.ps/en/?page=633167343250594025&nid=11505">  
#  
# http://www.moi.gov.ps/en/?page=633167343250594025&nid=11505  
# </a>  
# or  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_gazastrip02.html">  
# http://www.worldtimezone.com/dst\_news/dst\_news\_gazastrip02.html  
# </a>

# From Alexander Krivenyshev (2010-03-19):  
# According to Voice of Palestine DST will last for 191 days, from March  
# 26, 2010 till "the last Sunday before the tenth day of Tishri  
# (October), each year" (October 03, 2010?)  
#  
# <a href="http://palvoice.org/forums/showthread.php?t=245697">  
# http://palvoice.org/forums/showthread.php?t=245697  
# </a>  
# (in Arabic)  
# or  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_westbank03.html">  
# http://www.worldtimezone.com/dst\_news/dst\_news\_westbank03.html  
# </a>

# From Steffen Thorsen (2010-03-24):  
# ...Ma'an News Agency reports that Hamas cabinet has decided it will  
# start one day later, at 12:01am. Not sure if they really mean 12:01am or  
# noon though:  
#  
# <a href="http://www.maannews.net/eng/ViewDetails.aspx?ID=271178">  
#  
# http://www.maannews.net/eng/ViewDetails.aspx?ID=271178  
# </a>  
# (Ma'an News Agency)  
# "At 12:01am Friday, clocks in Israel and the West Bank will change to  
# 1:01am, while Gaza clocks will change at 12:01am Saturday morning."

# From Steffen Thorsen (2010-08-11):  
# According to several sources, including  
# <a href="http://www.maannews.net/eng/ViewDetails.aspx?ID=306795">  
# http://www.maannews.net/eng/ViewDetails.aspx?ID=306795  
# </a>  
# the clocks were set back one hour at 2010-08-11 00:00:00 local time in  
# Gaza and the West Bank.  
# Some more background info:  
# <a href="http://www.timeanddate.com/news/time/westbank-gaza-end-dst-2010.html">  
# http://www.timeanddate.com/news/time/westbank-gaza-end-dst-2010.html  
# </a>

# From Steffen Thorsen (2011-08-26):  
# Gaza and the West Bank did go back to standard time in the beginning of  
# August, and will now enter daylight saving time again on 2011-08-30  
# 00:00 (so two periods of DST in 2011). The pause  
# was because of  
# Ramadan.  
#  
# <a href="http://www.maannews.net/eng/ViewDetails.aspx?ID=416217">  
# http://www.maannews.net/eng/ViewDetails.aspx?ID=416217



# </a>  
# Additional info:  
# <a href="http://www.timeanddate.com/news/time/palestine-dst-2011.html">  
# http://www.timeanddate.com/news/time/palestine-dst-2011.html  
# </a>

# From Alexander Krivenyshev (2011-08-27):  
# According to the article in The Jerusalem Post:  
# "...Earlier this month, the Palestinian government in the West Bank decided to  
# move to standard time for 30 days, during Ramadan. The Palestinians in the  
# Gaza Strip accepted the change and also moved their clocks one hour back.  
# The Hamas government said on Saturday that it won't observe summertime after  
# the Muslim feast of Id al-Fitr, which begins on Tuesday..."  
# ...  
# <a href="http://www.jpost.com/MiddleEast/Article.aspx?id=235650">  
# http://www.jpost.com/MiddleEast/Article.aspx?id=235650  
# </a>  
# or  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_gazastrap05.html">  
#  
# http://www.worldtimezone.com/dst\_news/dst\_news\_gazastrap05.html  
# </a>  
# The rules for Egypt are stolen from the `africa' file.

# From Steffen Thorsen (2011-09-30):  
# West Bank did end Daylight Saving Time this morning/midnight (2011-09-30  
# 00:00).  
# So West Bank and Gaza now have the same time again.  
#  
# Many sources, including:  
# <a href="http://www.maannnews.net/eng/ViewDetails.aspx?ID=424808">  
# http://www.maannnews.net/eng/ViewDetails.aspx?ID=424808  
# </a>

# From Steffen Thorsen (2012-03-26):  
# Palestinian news sources tell that both Gaza and West Bank will start DST  
# on Friday (Thursday midnight, 2012-03-29 24:00).  
# Some of many sources in Arabic:  
# <a href="http://www.samanews.com/index.php?act=Show&id=122638">  
# http://www.samanews.com/index.php?act=Show&id=122638  
# </a>  
#  
# <a href="http://safa.ps/details/news/74352/%D8%A8%D8%AF%D8%A1-%D8%A7%D9%84%D8%AA%D9%88%D9%82%D9%8A%D8%AA-%D8%A7%D9%84%D8%B5%D9%8A%D9%81%D9%8A-%D8%A8%D8%A7%D9%84%D8%B6%D9%81%D8%A9-%D9%88%D8%BA%D8%B2%D8%A9-%D9%84%D9%8A%D9%84%D8%A9-%D8%A7%D9%84%D8%AC%D9%85%D8%B9%D8%A9.html">  
#

<http://safa.ps/details/news/74352/%D8%A8%D8%AF%D8%A1-%D8%A7%D9%84%D8%AA%D9%88%D9%82%D9%8A%D8%AA-%D8%A7%D9%84%D8%B5%D9%8A%D9%81%D9%8A-%D8%A8%D8%A7%D9%84%D8%B6%D9%81%D8%A9-%D9%88%D8%BA%D8%B2%D8%A9-%D9%84%D9%8A%D9%84%D8%A9-%D8%A7%D9%84%D8%AC%D9%85%D8%B9%D8%A9.html>

# </a>

#

# Our brief summary:

# <a href="http://www.timeanddate.com/news/time/gaza-west-bank-dst-2012.html">

# <http://www.timeanddate.com/news/time/gaza-west-bank-dst-2012.html>

# </a>

# From Steffen Thorsen (2013-03-26):

# The following news sources tells that Palestine will "start daylight saving

# time from midnight on Friday, March 29, 2013" (translated).

# [These are in Arabic and are for Gaza and for Ramallah, respectively.]

# <http://www.samanews.com/index.php?act=Show&id=154120>

# <http://safa.ps/details/news/99844/%D8%B1%D8%A7%D9%85-%D8%A7%D9%84%D9%84%D9%87-%D8%A8%D8%AF%D8%A1-%D8%A7%D9%84%D8%AA%D9%88%D9%82%D9%8A%D8%AA-%D8%A7%D9%84%D8%B5%D9%8A%D9%81%D9%8A-29-%D8%A7%D9%84%D8%AC%D8%A7%D8%B1%D9%8A.html>

#

From Paul Eggert (2013-04-15):

# For future dates, guess the last Thursday in March at 24:00 through

# the first Friday on or after September 21 at 01:00. This is consistent with

# the predictions in today's editions of the following URLs,

# which are for Gaza and Hebron respectively:

# <http://www.timeanddate.com/worldclock/timezone.html?n=702>

# <http://www.timeanddate.com/worldclock/timezone.html?n=2364>

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule EgyptAsia 1957 only - May 10 0:00 1:00 S

Rule EgyptAsia 1957 1958 - Oct 1 0:00 0 -

Rule EgyptAsia 1958 only - May 1 0:00 1:00 S

Rule EgyptAsia 1959 1967 - May 1 1:00 1:00 S

Rule EgyptAsia 1959 1965 - Sep 30 3:00 0 -

Rule EgyptAsia 1966 only - Oct 1 3:00 0 -

Rule Palestine 1999 2005 - Apr Fri>=15 0:00 1:00 S

Rule Palestine 1999 2003 - Oct Fri>=15 0:00 0 -

Rule Palestine 2004 only - Oct 1 1:00 0 -

Rule Palestine 2005 only - Oct 4 2:00 0 -

Rule Palestine 2006 2007 - Apr

1 0:00 1:00 S

Rule Palestine 2006 only - Sep 22 0:00 0 -

Rule Palestine 2007 only - Sep Thu>=8 2:00 0 -

Rule Palestine 2008 2009 - Mar lastFri 0:00 1:00 S

Rule Palestine 2008 only - Sep 1 0:00 0 -  
Rule Palestine 2009 only - Sep Fri>=1 1:00 0 -  
Rule Palestine 2010 only - Mar 26 0:00 1:00 S  
Rule Palestine 2010 only - Aug 11 0:00 0 -  
Rule Palestine 2011 only - Apr 1 0:01 1:00 S  
Rule Palestine 2011 only - Aug 1 0:00 0 -  
Rule Palestine 2011 only - Aug 30 0:00 1:00 S  
Rule Palestine 2011 only - Sep 30 0:00 0 -  
Rule Palestine 2012 max - Mar lastThu 24:00 1:00 S  
Rule Palestine 2012 max - Sep Fri>=21 1:00 0 -

# Zone NAME GMTTOFF RULES FORMAT [UNTIL]

Zone Asia/Gaza 2:17:52 - LMT 1900 Oct

2:00 Zion EET 1948 May 15  
2:00 EgyptAsia EE%sT 1967 Jun 5  
2:00 Zion I%sT 1996  
2:00 Jordan EE%sT 1999  
2:00 Palestine EE%sT 2008 Aug 29 0:00  
2:00 - EET 2008 Sep  
2:00 Palestine EE%sT 2010  
2:00 - EET 2010 Mar 27 0:01  
2:00 Palestine EE%sT 2011 Aug 1  
2:00 - EET 2012  
2:00  
Palestine EE%sT

Zone Asia/Hebron 2:20:23 - LMT 1900 Oct

2:00 Zion EET 1948 May 15  
2:00 EgyptAsia EE%sT 1967 Jun 5  
2:00 Zion I%sT 1996  
2:00 Jordan EE%sT 1999  
2:00 Palestine EE%sT

# Paracel Is

# no information

# Philippines

# On 1844-08-16, Narciso Claveria, governor-general of the  
# Philippines, issued a proclamation announcing that 1844-12-30 was to  
# be immediately followed by 1845-01-01. Robert H. van Gent has a  
# transcript of the decree in <<http://www.phys.uu.nl/~vgent/idl/idl.htm>>.  
# The rest of the data are from Shanks & Pottenger.

# From Paul Eggert (2006-04-25):

# Tomorrow's Manila Standard reports that the Philippines Department of  
# Trade and Industry is considering adopting DST this June when the  
# rainy season begins. See  
# <[http://www.manilastandardtoday.com/?page=politics02\\_april26\\_2006](http://www.manilastandardtoday.com/?page=politics02_april26_2006)>.

# For now, we'll ignore this, since it's not definite and we lack details.  
#  
# From Jesper Norgaard Welen (2006-04-26):  
# ... claims that Philippines had DST last  
time in 1990:  
# <http://story.philippinetimes.com/p.x/ct/9/id/145be20cc6b121c0/cid/3e5bbccc730d258c/>  
# [a story dated 2006-04-25 by Cris Larano of Dow Jones Newswires,  
# but no details]

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Phil 1936 only - Nov 1 0:00 1:00 S

Rule Phil 1937 only - Feb 1 0:00 0 -

Rule Phil 1954 only - Apr 12 0:00 1:00 S

Rule Phil 1954 only - Jul 1 0:00 0 -

Rule Phil 1978 only - Mar 22 0:00 1:00 S

Rule Phil 1978 only - Sep 21 0:00 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Manila -15:56:00 - LMT 1844 Dec 31

8:04:00 - LMT 1899 May 11

8:00 Phil PH%sT 1942 May

9:00 - JST 1944 Nov

8:00 Phil PH%sT

# Qatar

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Qatar 3:26:08 - LMT 1920 # Al Dawhah / Doha

4:00 - GST 1972 Jun

3:00 - AST

# Saudi Arabia

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Riyadh 3:06:52 - LMT 1950

3:00 - AST

# Singapore

# The data here are taken from Mok Ly Yng (2003-10-30)

# <<http://www.math.nus.edu.sg/aslaksen/teaching/timezone.html>>.

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Singapore 6:55:25 - LMT 1901 Jan 1

6:55:25 - SMT 1905 Jun 1 # Singapore M.T.

7:00 - MALT 1933 Jan 1 # Malaya Time

7:00 0:20 MALST 1936 Jan 1

7:20 - MALT 1941 Sep 1

7:30 - MALT 1942 Feb 16

9:00 - JST 1945 Sep 12

7:30 - MALT 1965 Aug 9 # independence

7:30 - SGT 1982 Jan 1 # Singapore Time

8:00 - SGT

# Spratly Is  
# no information

# Sri Lanka

# From Paul Eggert (2013-02-21):  
# Milne says "Madras mean time use from May 1, 1898. Prior to this Colombo  
# mean time, 5h. 4m. 21.9s. F., was used." But 5:04:21.9 differs considerably  
# from Colombo's meridian 5:19:24, so for now ignore Milne and stick with  
# Shanks and Pottenger.

# From Paul Eggert (1996-09-03):  
# "Sri Lanka advances clock by an hour to avoid blackout"  
# (www.virtual-pc.com/lankaweb/news/items/240596-2.html, 1996-05-24,  
# no longer available as of 1999-08-17)  
# reported ``the country's standard time will be put  
# forward by one hour at  
# midnight Friday (1830 GMT) `in the light of the present power crisis!.'  
#  
# From Dharmasiri Senanayake, Sri Lanka Media Minister (1996-10-24), as quoted  
# by Shamindra in  
# <a href="news:54rka5\$m5h@mtinsc01-mgt.ops.worldnet.att.net">  
# Daily News - Hot News Section (1996-10-26)  
# </a>:  
# With effect from 12.30 a.m. on 26th October 1996  
# Sri Lanka will be six (06) hours ahead of GMT.

# From Jesper Norgaard Welen (2006-04-14), quoting Sri Lanka News Online  
# <<http://news.sinhalaya.com/wmview.php?ArtID=11002>> (2006-04-13):  
# 0030 hrs on April 15, 2006 (midnight of April 14, 2006 +30 minutes)  
# at present, become 2400 hours of April 14, 2006 (midnight of April 14, 2006).

# From Peter Apps and Ranga Sirila of Reuters (2006-04-12) in:  
# <[http://today.reuters.co.uk/news/newsArticle.aspx?type=scienceNews&storyID=2006-04-12T172228Z\\_01\\_COL295762\\_RTRIDST\\_0\\_SCIENCE-SRILANKA-TIME-DC.XML](http://today.reuters.co.uk/news/newsArticle.aspx?type=scienceNews&storyID=2006-04-12T172228Z_01_COL295762_RTRIDST_0_SCIENCE-SRILANKA-TIME-DC.XML)>  
# [The Tamil Tigers] never accepted the original 1996 time change and simply  
# kept  
# their clocks set five and a half hours ahead of Greenwich Mean  
# Time (GMT), in line with neighbor India.  
# From Paul Eggert (2006-04-18):  
# People who live in regions under Tamil control can use [TZ='Asia/Kolkata'],  
# as that zone has agreed with the Tamil areas since our cutoff date of 1970.

# From K Sethu (2006-04-25):  
# I think the abbreviation LKT originated from the world of computers at  
# the time of or subsequent to the time zone changes by SL Government

# twice in 1996 and probably SL Government or its standardization  
# agencies never declared an abbreviation as a national standard.  
#  
# I recollect before the recent change the government announcements  
# mentioning it as simply changing Sri Lanka Standard Time or Sri Lanka  
# Time and no mention was made about the abbreviation.  
#  
# If we look at Sri Lanka Department of Government's "Official News  
# Website of Sri Lanka" ... <http://www.news.lk/> we can see that they  
# use SLT as abbreviation in time stamp at the beginning of  
# each news  
# item....  
#  
# Within Sri Lanka I think LKT is well known among computer users and  
# administrators. In my opinion SLT may not be a good choice because the  
# nation's largest telcom / internet operator Sri Lanka Telecom is well  
# known by that abbreviation - simply as SLT (there IP domains are  
# slt.lk and sltnet.lk).  
#  
# But if indeed our government has adopted SLT as standard abbreviation  
# (that we have not known so far) then it is better that it be used for  
# all computers.

# From Paul Eggert (2006-04-25):  
# One possibility is that we wait for a bit for the dust to settle down  
# and then see what people actually say in practice.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Colombo 5:19:24 - LMT 1880  
5:19:32 - MMT 1906 # Moratuwa Mean Time  
5:30 - IST 1942 Jan 5  
5:30 0:30 IHST 1942 Sep  
5:30 1:00 IST 1945 Oct 16 2:00  
5:30 - IST 1996 May 25 0:00  
6:30 - LKT 1996 Oct 26 0:30  
6:00 - LKT 2006 Apr 15 0:30  
5:30 - IST

# Syria

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Syria 1920 1923 - Apr Sun>=15 2:00 1:00 S  
Rule Syria 1920 1923 - Oct Sun>=1 2:00 0 -  
Rule Syria 1962 only - Apr 29 2:00 1:00 S  
Rule Syria 1962 only - Oct 1 2:00 0 -  
Rule Syria 1963 1965 - May 1 2:00 1:00 S  
Rule Syria 1963 only - Sep 30 2:00 0 -  
Rule Syria 1964 only - Oct 1 2:00 0 -  
Rule Syria 1965 only - Sep 30 2:00 0 -

Rule Syria 1966 only - Apr 24 2:00 1:00 S  
 Rule Syria 1966 1976 - Oct 1 2:00 0 -  
 Rule Syria 1967 1978 - May 1 2:00 1:00 S  
 Rule Syria 1977 1978 - Sep 1 2:00 0 -  
 Rule Syria 1983 1984 - Apr 9 2:00 1:00 S  
 Rule Syria 1983 1984 - Oct 1 2:00 0 -  
 Rule Syria 1986 only - Feb 16 2:00 1:00 S  
 Rule Syria 1986 only - Oct 9 2:00 0 -  
 Rule Syria 1987 only - Mar 1 2:00 1:00 S  
 Rule Syria 1987 1988 - Oct 31 2:00 0 -  
 Rule Syria 1988 only - Mar 15 2:00 1:00 S  
 Rule Syria 1989 only - Mar 31 2:00 1:00 S  
 Rule Syria 1989 only - Oct 1 2:00 0 -  
 Rule Syria 1990 only - Apr 1 2:00 1:00 S  
 Rule Syria 1990 only - Sep 30 2:00 0 -  
 Rule Syria 1991 only - Apr  
 1 0:00 1:00 S  
 Rule Syria 1991 1992 - Oct  
 1 0:00 0 -  
 Rule Syria 1992 only - Apr 8 0:00 1:00 S  
 Rule Syria 1993 only - Mar 26 0:00 1:00 S  
 Rule Syria 1993 only - Sep 25 0:00 0 -  
 # IATA SSIM (1998-02) says 1998-04-02;  
 # (1998-09) says 1999-03-29 and 1999-09-29; (1999-02) says 1999-04-02,  
 # 2000-04-02, and 2001-04-02; (1999-09) says 2000-03-31 and 2001-03-31;  
 # (2006) says 2006-03-31 and 2006-09-22;  
 # for now ignore all these claims and go with Shanks & Pottenger,  
 # except for the 2006-09-22 claim (which seems right for Ramadan).  
 Rule Syria 1994 1996 - Apr 1 0:00 1:00 S  
 Rule Syria 1994 2005 - Oct 1 0:00 0 -  
 Rule Syria 1997 1998 - Mar lastMon 0:00 1:00 S  
 Rule Syria 1999 2006 - Apr 1 0:00 1:00 S  
 # From Stephen Colebourne (2006-09-18):  
 # According to IATA data, Syria will change DST on 21st September [21:00 UTC]  
 # this year [only].... This is probably related to Ramadan, like Egypt.  
 Rule Syria 2006 only - Sep 22 0:00 0 -  
 # From Paul Eggert (2007-03-29):  
 # Today the AP reported "Syria will switch to summertime  
 at midnight Thursday."  
 # <http://www.iht.com/articles/ap/2007/03/29/africa/ME-GEN-Syria-Time-Change.php>  
 Rule Syria 2007 only - Mar lastFri 0:00 1:00 S  
 # From Jesper Norgard (2007-10-27):  
 # The sister center ICARDA of my work CIMMYT is confirming that Syria DST will  
 # not take place 1.st November at 0:00 o'clock but 1.st November at 24:00 or  
 # rather Midnight between Thursday and Friday. This does make more sense than  
 # having it between Wednesday and Thursday (two workdays in Syria) since the  
 # weekend in Syria is not Saturday and Sunday, but Friday and Saturday. So now  
 # it is implemented at midnight of the last workday before weekend...

```

#
# From Steffen Thorsen (2007-10-27):
# Jesper Norgaard Welen wrote:
#
# > "Winter local time in Syria will be observed at midnight of Thursday 1
# > November 2007, and the clock will be put back 1 hour."
#
# I found confirmation on this in this gov.sy-article (Arabic):
# http://wehda.alwehda.gov.sy/_print_veiw.asp?FileName=12521710520070926111247
#
#
# which using Google's translate tools says:
# Council of Ministers also approved the commencement of work on
# identifying the winter time as of Friday, 2/11/2007 where the 60th
# minute delay at midnight Thursday 1/11/2007.
Rule Syria 2007 only - Nov Fri>=1 0:00 0 -

# From Stephen Colebourne (2008-03-17):
# For everyone's info, I saw an IATA time zone change for [Syria] for
# this month (March 2008) in the last day or so...This is the data IATA
# are now using:
# Country   Time Standard   --- DST Start ---   --- DST End ---   DST
# Name      Zone Variation   Time   Date       Time   Date
# Variation
# Syrian Arab
# Republic  SY   +0200   2200 03APR08   2100 30SEP08   +0300
#           2200 02APR09   2100 30SEP09   +0300
#           2200 01APR10   2100 30SEP10   +0300

# From Arthur David Olson (2008-03-17):
# Here's a link to English-language coverage by the Syrian Arab News
# Agency (SANA)...
# <a href="http://www.sana.sy/eng/21/2008/03/11/165173.htm">
#
# http://www.sana.sy/eng/21/2008/03/11/165173.htm
# </a>...which reads (in part) "The Cabinet approved the suggestion of the
# Ministry of Electricity to begin daylight savings time on Friday April
# 4th, advancing clocks one hour ahead on midnight of Thursday April 3rd."
# Since Syria is two hours east of UTC, the 2200 and 2100 transition times
# shown above match up with midnight in Syria.

# From Arthur David Olson (2008-03-18):
# My best guess at a Syrian rule is "the Friday nearest April 1";
# coding that involves either using a "Mar Fri>=29" construct that old time zone
# compilers can't handle or having multiple Rules (a la Israel).
# For now, use "Apr Fri>=1", and go with IATA on a uniform Sep 30 end.

# From Steffen Thorsen (2008-10-07):

```



# Syria has now officially decided to end DST on 2008-11-01 this year,  
# according to the following article in the Syrian Arab News Agency (SANA).  
#  
# The article is in Arabic, and seems to tell that  
# they will go back to  
# winter time on 2008-11-01 at 00:00 local daylight time (delaying/setting  
# clocks back 60 minutes).  
#  
# <a href="http://sana.sy/ara/2/2008/10/07/195459.htm">  
# http://sana.sy/ara/2/2008/10/07/195459.htm  
# </a>

# From Steffen Thorsen (2009-03-19):  
# Syria will start DST on 2009-03-27 00:00 this year according to many sources,  
# two examples:  
#  
# <a href="http://www.sana.sy/eng/21/2009/03/17/217563.htm">  
# http://www.sana.sy/eng/21/2009/03/17/217563.htm  
# </a>  
# (English, Syrian Arab News # Agency)  
# <a href="http://thawra.alwehda.gov.sy/\_View\_news2.asp?FileName=94459258720090318012209">  
# http://thawra.alwehda.gov.sy/\_View\_news2.asp?FileName=94459258720090318012209  
# </a>  
# (Arabic, gov-site)  
#  
# We have not found any sources saying anything about when DST ends this year.  
#  
# Our summary  
# <a href="http://www.timeanddate.com/news/time/syria-dst-starts-march-27-2009.html">  
# http://www.timeanddate.com/news/time/syria-dst-starts-march-27-2009.html  
# </a>

# From Steffen  
# Thorsen (2009-10-27):  
# The Syrian Arab News Network on 2009-09-29 reported that Syria will  
# revert back to winter (standard) time on midnight between Thursday  
# 2009-10-29 and Friday 2009-10-30:  
# <a href="http://www.sana.sy/ara/2/2009/09/29/247012.htm">  
# http://www.sana.sy/ara/2/2009/09/29/247012.htm (Arabic)  
# </a>

# From Arthur David Olson (2009-10-28):  
# We'll see if future DST switching times turn out to be end of the last  
# Thursday of the month or the start of the last Friday of the month or  
# something else. For now, use the start of the last Friday.

# From Steffen Thorsen (2010-03-17):  
# The "Syrian News Station" reported on 2010-03-16 that the Council of

```

# Ministers has decided that Syria will start DST on midnight Thursday
# 2010-04-01: (midnight between Thursday and Friday):
# <a href="http://sns.sy/sns/?path=news/read/11421">
# http://sns.sy/sns/?path=news/read/11421 (Arabic)
# </a>

# From Steffen Thorsen (2012-03-26):
# Today, Syria's government announced that
# they will start DST early on Friday
# (00:00). This is a bit earlier than the past two years.
#
# From Syrian Arab News Agency, in Arabic:
# <a href="http://www.sana.sy/ara/2/2012/03/26/408215.htm">
# http://www.sana.sy/ara/2/2012/03/26/408215.htm
# </a>
#
# Our brief summary:
# <a href="http://www.timeanddate.com/news/time/syria-dst-2012.html">
# http://www.timeanddate.com/news/time/syria-dst-2012.html
# </a>

# From Arthur David Olson (2012-03-27):
# Assume last Friday in March going forward XXX.

Rule Syria 2008 only - Apr Fri>=1 0:00 1:00 S
Rule Syria 2008 only - Nov 1 0:00 0 -
Rule Syria 2009 only - Mar lastFri 0:00 1:00 S
Rule Syria 2010 2011 - Apr Fri>=1 0:00 1:00 S
Rule Syria 2012 max - Mar lastFri 0:00 1:00 S
Rule Syria 2009 max - Oct lastFri 0:00 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Asia/Damascus 2:25:12 - LMT 1920 # Dimashq
2:00 Syria EE%sT

# Tajikistan
# From Shanks & Pottenger.
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Asia/Dushanbe 4:35:12 - LMT 1924
May 2
5:00 - DUST 1930 Jun 21 # Dushanbe Time
6:00 RussiaAsia DUS%sT 1991 Mar 31 2:00s
5:00 1:00 DUSST 1991 Sep 9 2:00s
5:00 - TJT # Tajikistan Time

# Thailand
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Asia/Bangkok 6:42:04 - LMT 1880

```

6:42:04 - BMT 1920 Apr # Bangkok Mean Time

7:00 - ICT

# Turkmenistan

# From Shanks & Pottenger.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Ashgabat 3:53:32 - LMT 1924 May 2 # or Ashkhabad

4:00 - ASHT 1930 Jun 21 # Ashkhabad Time

5:00 RussiaAsia ASH%ST 1991 Mar 31 2:00

4:00 RussiaAsia ASH%ST 1991 Oct 27 # independence

4:00 RussiaAsia TM%ST 1992 Jan 19 2:00

5:00 - TMT

# United Arab Emirates

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Dubai 3:41:12 - LMT 1920

4:00 - GST

# Uzbekistan

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Asia/Samarkand 4:27:12 - LMT 1924 May 2

4:00 - SAMT 1930 Jun 21 # Samarkand Time

5:00 - SAMT 1981 Apr 1

5:00 1:00 SAMST 1981 Oct 1

6:00 - TAST 1982 Apr

1 # Tashkent Time

5:00 RussiaAsia SAM%ST 1991 Sep 1 # independence

5:00 RussiaAsia UZ%ST 1992

5:00 - UZT

Zone Asia/Tashkent 4:37:12 - LMT 1924 May 2

5:00 - TAST 1930 Jun 21 # Tashkent Time

6:00 RussiaAsia TAS%ST 1991 Mar 31 2:00

5:00 RussiaAsia TAS%ST 1991 Sep 1 # independence

5:00 RussiaAsia UZ%ST 1992

5:00 - UZT

# Vietnam

# From Paul Eggert (2013-02-21):

# Milne gives 7:16:56 for the meridian of Saigon in 1899, as being

# used in Lower Laos, Cambodia, and Annam. But this is quite a ways

# from Saigon's location. For now, ignore this and stick with Shanks

# and Pottenger.

# From Arthur David Olson (2008-03-18):

# The English-language name of Vietnam's most populous city is "Ho Chi Min City";

# we use Ho\_Chi\_Min below to avoid a name of more than 14 characters.

```
# From Shanks & Pottenger:
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Asia/Ho_Chi_Minh 7:06:40 - LMT 1906 Jun 9
  7:06:20 - SMT 1911 Mar 11 0:01 # Saigon MT?
  7:00 - ICT 1912 May
  8:00 - ICT 1931
May
  7:00 - ICT
```

```
# Yemen
```

```
# Milne says 2:59:54 was the meridian of the saluting battery at Aden,
# and that Yemen was at 1:55:56, the meridian of the Hagia Sophia.
```

```
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Asia/Aden 2:59:54 - LMT 1950
  3:00 - AST
```

```
Found in path(s):
```

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/asia
No license file was found, but licenses were detected in source scan.
```

```
# This file is in the public domain, so clarified as of
```

```
Found in path(s):
```

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/Makefile
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/Makefile
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/workman.sh
No license file was found, but licenses were detected in source scan.
```

```
# <pre>
```

```
# This file is in the public domain, so clarified as of
```

```
# 2009-05-17 by Arthur David Olson.
```

```
# From Paul Eggert (1999-11-15):
```

```
# To keep things manageable, we list only locations occupied year-round; see
```

```
# <a href="http://www.comnap.aq/comnap/comnap.nsf/P/Stations/">
```

```
# COMNAP - Stations and Bases
```

```
# </a>
```

```
# and
```

```
# <a href="http://www.spri.cam.ac.uk/bob/periant.htm">
```

```
# Summary of the Peri-Antarctic Islands (1998-07-23)
```

```
# </a>
```

```
# for information.
```

```

# Unless otherwise specified, we have no time zone information.
#
# Except for the French entries,
# I made up all time zone abbreviations mentioned here; corrections welcome!
# FORMAT is `zzz' and GMTOFF is 0 for locations while uninhabited.

# These rules are stolen from the `southamerica' file.
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule ArgAQ 1964 1966 - Mar 1 0:00 0 -
Rule ArgAQ 1964 1966 - Oct 15 0:00 1:00 S
Rule ArgAQ 1967 only - Apr 2 0:00 0 -
Rule ArgAQ 1967 1968 - Oct Sun>=1 0:00 1:00 S
Rule ArgAQ 1968 1969 - Apr Sun>=1 0:00 0 -
Rule ArgAQ 1974 only - Jan 23 0:00 1:00 S
Rule ArgAQ 1974 only - May
1 0:00 0 -
Rule ChileAQ 1972 1986 - Mar Sun>=9 3:00u 0 -
Rule ChileAQ 1974 1987 - Oct Sun>=9 4:00u 1:00 S
Rule ChileAQ 1987 only - Apr 12 3:00u 0 -
Rule ChileAQ 1988 1989 - Mar Sun>=9 3:00u 0 -
Rule ChileAQ 1988 only - Oct Sun>=1 4:00u 1:00 S
Rule ChileAQ 1989 only - Oct Sun>=9 4:00u 1:00 S
Rule ChileAQ 1990 only - Mar 18 3:00u 0 -
Rule ChileAQ 1990 only - Sep 16 4:00u 1:00 S
Rule ChileAQ 1991 1996 - Mar Sun>=9 3:00u 0 -
Rule ChileAQ 1991 1997 - Oct Sun>=9 4:00u 1:00 S
Rule ChileAQ 1997 only - Mar 30 3:00u 0 -
Rule ChileAQ 1998 only - Mar Sun>=9 3:00u 0 -
Rule ChileAQ 1998 only - Sep 27 4:00u 1:00 S
Rule ChileAQ 1999 only - Apr 4 3:00u 0 -
Rule ChileAQ 1999 2010 - Oct Sun>=9 4:00u 1:00 S
Rule ChileAQ 2000 2007 - Mar Sun>=9 3:00u 0 -
# N.B.: the end of March 29 in Chile is March 30 in Universal time,
# which is used below in specifying the
transition.
Rule ChileAQ 2008 only - Mar 30 3:00u 0 -
Rule ChileAQ 2009 only - Mar Sun>=9 3:00u 0 -
Rule ChileAQ 2010 only - Apr Sun>=1 3:00u 0 -
Rule ChileAQ 2011 only - May Sun>=2 3:00u 0 -
Rule ChileAQ 2011 only - Aug Sun>=16 4:00u 1:00 S
Rule ChileAQ 2012 max - Apr Sun>=23 3:00u 0 -
Rule ChileAQ 2012 max - Sep Sun>=2 4:00u 1:00 S

# Argentina - year-round bases
# Belgrano II, Confin Coast, -770227-0343737, since 1972-02-05
# Esperanza, San Martin Land, -6323-05659, since 1952-12-17
# Jubany, Potter Peninsula, King George Island, -6414-0602320, since 1982-01
# Marambio, Seymour I, -6414-05637, since 1969-10-29

```

# Orcadas, Laurie I, -6016-04444, since 1904-02-22  
# San Martin, Debenham I, -6807-06708, since 1951-03-21  
# (except 1960-03 / 1976-03-21)

# Australia - territories  
# Heard Island, McDonald Islands (uninhabited)  
# previously sealers and scientific personnel wintered  
# <a href="http://web.archive.org/web/20021204222245/http://www.dstc.qut.edu.au/DST/marg/daylight.html">  
# Margaret  
Turner reports  
# </a> (1999-09-30) that they're UTC+5, with no DST;  
# presumably this is when they have visitors.  
#  
# year-round bases  
# Casey, Bailey Peninsula, -6617+11032, since 1969  
# Davis, Vestfold Hills, -6835+07759, since 1957-01-13  
# (except 1964-11 - 1969-02)  
# Mawson, Holme Bay, -6736+06253, since 1954-02-13

# From Steffen Thorsen (2009-03-11):  
# Three Australian stations in Antarctica have changed their time zone:  
# Casey moved from UTC+8 to UTC+11  
# Davis moved from UTC+7 to UTC+5  
# Mawson moved from UTC+6 to UTC+5  
# The changes occurred on 2009-10-18 at 02:00 (local times).  
#  
# Government source: (Australian Antarctic Division)  
# <a href="http://www.aad.gov.au/default.asp?casid=37079">  
# http://www.aad.gov.au/default.asp?casid=37079  
# </a>  
#  
# We have more background information here:  
# <a href="http://www.timeanddate.com/news/time/antarctica-new-times.html">  
# http://www.timeanddate.com/news/time/antarctica-new-times.html  
# </a>

# From Steffen Thorsen (2010-03-10):  
#  
We got these changes from the Australian Antarctic Division: ...  
#  
# - Casey station reverted to its normal time of UTC+8 on 5 March 2010.  
# The change to UTC+11 is being considered as a regular summer thing but  
# has not been decided yet.  
#  
# - Davis station will revert to its normal time of UTC+7 at 10 March 2010  
# 20:00 UTC.  
#  
# - Mawson station stays on UTC+5.

```

#
# Background:
# <a href="http://www.timeanddate.com/news/time/antartica-time-changes-2010.html">
# http://www.timeanddate.com/news/time/antartica-time-changes-2010.html
# </a>

# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Antarctica/Casey 0 - zzz 1969
8:00 - WST 2009 Oct 18 2:00
# Western (Aus) Standard Time
11:00 - CAST 2010 Mar 5 2:00
# Casey Time
8:00 - WST 2011 Oct 28 2:00
11:00 - CAST 2012 Feb 21 17:00u
8:00 - WST
Zone Antarctica/Davis 0 - zzz 1957 Jan 13
7:00 - DAVT 1964 Nov # Davis Time
0 - zzz 1969 Feb
7:00 - DAVT 2009 Oct 18 2:00
5:00 - DAVT 2010 Mar 10 20:00u
7:00 - DAVT 2011
Oct 28 2:00
5:00 - DAVT 2012 Feb 21 20:00u
7:00 - DAVT
Zone Antarctica/Mawson 0 - zzz 1954 Feb 13
6:00 - MAWT 2009 Oct 18 2:00
# Mawson Time
5:00 - MAWT

# References:
# <a href="http://www.antdiv.gov.au/aad/exop/sfo/casey/casey_aws.html">
# Casey Weather (1998-02-26)
# </a>
# <a href="http://www.antdiv.gov.au/aad/exop/sfo/davis/video.html">
# Davis Station, Antarctica (1998-02-26)
# </a>
# <a href="http://www.antdiv.gov.au/aad/exop/sfo/mawson/video.html">
# Mawson Station, Antarctica (1998-02-25)
# </a>

# Brazil - year-round base
# Comandante Ferraz, King George Island, -6205+05824, since 1983/4

# Chile - year-round bases and towns
# Escudero, South Shetland Is, -621157-0585735, since 1994
# Presidente Eduardo Frei, King George Island, -6214-05848, since 1969-03-07
# General Bernardo O'Higgins, Antarctic Peninsula, -6319-05704, since 1948-02
# Capitan Arturo Prat, -6230-05941
# Villa Las Estrellas (a town), around the Frei base, since 1984-04-09

```

```

# These locations
have always used Santiago time; use TZ='America/Santiago'.

# China - year-round bases
# Great Wall, King George Island, -6213-05858, since 1985-02-20
# Zhongshan, Larsemann Hills, Prydz Bay, -6922+07623, since 1989-02-26

# France - year-round bases
#
# From Antoine Leca (1997-01-20):
# Time data are from Nicole Pailleau at the IFRTP
# (French Institute for Polar Research and Technology).
# She confirms that French Southern Territories and Terre Adelie bases
# don't observe daylight saving time, even if Terre Adelie supplies came
# from Tasmania.
#
# French Southern Territories with year-round inhabitants
#
# Martin-de-Vivies Base, Amsterdam Island, -374105+0773155, since 1950
# Alfred-Faure Base, Crozet Islands, -462551+0515152, since 1964
# Port-aux-Francais, Kerguelen Islands, -492110+0701303, since 1951;
# whaling & sealing station operated 1908/1914, 1920/1929, and 1951/1956
#
# St Paul Island - near Amsterdam, uninhabited
# fishing stations operated variously 1819/1931
#
#
Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Indian/Kerguelen 0 - zzz 1950 # Port-aux-Francais
5:00 - TFT # ISO code TF Time
#
# year-round base in the main continent
# Dumont-d'Urville, Ile des Petrels, -6640+14001, since 1956-11
#
# Another base at Port-Martin, 50km east, began operation in 1947.
# It was destroyed by fire on 1952-01-14.
#
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Antarctica/DumontD'Urville 0 - zzz 1947
10:00 - PMT 1952 Jan 14 # Port-Martin Time
0 - zzz 1956 Nov
10:00 - DDUT # Dumont-d'Urville Time
# Reference:
# <a href="http://en.wikipedia.org/wiki/Dumont_d'Urville_Station">
# Dumont d'Urville Station (2005-12-05)
# </a>

# Germany - year-round base

```



```

# Georg von Neumayer, -7039-00815

# India - year-round base
# Dakshin Gangotri, -7005+01200

# Japan - year-round bases
# Dome Fuji, -7719+03942
# Syowa, -690022+0393524
#
# From Hideyuki Suzuki (1999-02-06):
# In all Japanese stations, +0300 is used as the standard time.
#
# Syowa station, which is the
# first antarctic station of Japan,
# was established on 1957-01-29. Since Syowa station is still the main
# station of Japan, it's appropriate for the principal location.
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Antarctica/Syowa 0 - zzz 1957 Jan 29
    3:00 - SYOT # Syowa Time
# See:
# <a href="http://www.nipr.ac.jp/english/ara01.html">
# NIPR Antarctic Research Activities (1999-08-17)
# </a>

# S Korea - year-round base
# King Sejong, King George Island, -6213-05847, since 1988

# New Zealand - claims
# Balleny Islands (never inhabited)
# Scott Island (never inhabited)
#
# year-round base
# Scott, Ross Island, since 1957-01, is like Antarctica/McMurdo.
#
# These rules for New Zealand are stolen from the `australasia' file.
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule NZAQ 1974 only - Nov 3 2:00s 1:00 D
Rule NZAQ 1975 1988 - Oct lastSun 2:00s 1:00 D
Rule NZAQ 1989 only - Oct 8 2:00s 1:00 D
Rule NZAQ 1990 2006 - Oct Sun>=1 2:00s 1:00 D
Rule NZAQ 1975 only - Feb 23 2:00s 0 S
Rule NZAQ 1976 1989 - Mar Sun>=1 2:00s 0 S
Rule NZAQ 1990 2007 - Mar Sun>=15 2:00s 0 S
Rule NZAQ 2007 max - Sep lastSun 2:00s 1:00 D
Rule NZAQ 2008 max - Apr Sun>=1 2:00s 0 S

#

```

Norway - territories  
# Bouvet (never inhabited)  
#  
# claims  
# Peter I Island (never inhabited)

# Poland - year-round base  
# Arctowski, King George Island, -620945-0582745, since 1977

# Russia - year-round bases  
# Bellingshausen, King George Island, -621159-0585337, since 1968-02-22  
# Mirny, Davis coast, -6633+09301, since 1956-02  
# Molodezhnaya, Alasheyev Bay, -6740+04551,  
# year-round from 1962-02 to 1999-07-01  
# Novolazarevskaya, Queen Maud Land, -7046+01150,  
# year-round from 1960/61 to 1992

# Vostok, since 1957-12-16, temporarily closed 1994-02/1994-11  
# <a href="http://quest.arc.nasa.gov/antarctica/QA/computers/Directions,Time,ZIP">  
# From Craig Mundell (1994-12-15)</a>:  
# Vostok, which is one of the Russian stations, is set on the same  
# time as Moscow, Russia.  
#  
# From Lee Hotz (2001-03-08):  
# I queried  
# the folks at Columbia who spent the summer at Vostok and this is  
# what they had to say about time there:  
# ``in the US Camp (East Camp) we have been on New Zealand (McMurdo)  
# time, which is 12 hours ahead of GMT. The Russian Station Vostok was  
# 6 hours behind that (although only 2 miles away, i.e. 6 hours ahead  
# of GMT). This is a time zone I think two hours east of Moscow. The  
# natural time zone is in between the two: 8 hours ahead of GMT."  
#  
# From Paul Eggert (2001-05-04):  
# This seems to be hopelessly confusing, so I asked Lee Hotz about it  
# in person. He said that some Antarctic locations set their local  
# time so that noon is the warmest part of the day, and that this  
# changes during the year and does not necessarily correspond to mean  
# solar noon. So the Vostok time might have been whatever the clocks  
# happened to be during their visit. So we still don't really know what time  
# it is at Vostok. But we'll guess UTC+6.  
#  
Zone Antarctica/Vostok 0 - zzz 1957 Dec 16  
6:00 - VOST #  
Vostok time

# S Africa - year-round bases  
# Marion Island, -4653+03752

# Sanae, -7141-00250

# UK

#

# British Antarctic Territories (BAT) claims

# South Orkney Islands

# scientific station from 1903

# whaling station at Signy I 1920/1926

# South Shetland Islands

#

# year-round bases

# Bird Island, South Georgia, -5400-03803, since 1983

# Deception Island, -6259-06034, whaling station 1912/1931,

# scientific station 1943/1967,

# previously sealers and a scientific expedition wintered by accident,

# and a garrison was deployed briefly

# Halley, Coates Land, -7535-02604, since 1956-01-06

# Halley is on a moving ice shelf and is periodically relocated

# so that it is never more than 10km from its nominal location.

# Rothera, Adelaide Island, -6734-6808, since 1976-12-01

#

# From Paul Eggert (2002-10-22)

# <<http://webexhibits.org/daylightsaving/g.html>> says Rothera is -03 all year.

#

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Antarctica/Rothera 0 - zzz 1976 Dec 1

-3:00 - ROTT #

Rothera time

# Uruguay - year round base

# Artigas, King George Island, -621104-0585107

# USA - year-round bases

#

# Palmer, Anvers Island, since 1965 (moved 2 miles in 1968)

#

# From Ethan Dicks (1996-10-06):

# It keeps the same time as Punta Arenas, Chile, because, just like us

# and the South Pole, that's the other end of their supply line....

# I verified with someone who was there that since 1980,

# Palmer has followed Chile. Prior to that, before the Falklands War,

# Palmer used to be supplied from Argentina.

#

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Antarctica/Palmer 0 - zzz 1965

-4:00 ArgAQ AR%sT 1969 Oct 5

-3:00 ArgAQ AR%sT 1982 May

-4:00 ChileAQ CL%sT

```
#
#
# McMurdo, Ross Island, since 1955-12
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Antarctica/McMurdo 0 - zzz 1956
    12:00 NZAQ NZ%sT
#
# Amundsen-Scott, South Pole, continuously occupied since 1956-11-20
#
# From Paul Eggert (1996-09-03):
# Normally it wouldn't have a separate entry, since
# it's like the
# larger Antarctica/McMurdo since 1970, but it's too famous to omit.
#
# From Chris Carrier (1996-06-27):
# Siple, the first commander of the South Pole station,
# stated that he would have liked to have kept GMT at the station,
# but that he found it more convenient to keep GMT+12
# as supplies for the station were coming from McMurdo Sound,
# which was on GMT+12 because New Zealand was on GMT+12 all year
# at that time (1957). (Source: Siple's book 90 degrees SOUTH.)
#
# From Susan Smith
# http://www.cybertours.com/whs/pole10.html
# (1995-11-13 16:24:56 +1300, no longer available):
# We use the same time as McMurdo does.
# And they use the same time as Christchurch, NZ does....
# One last quirk about South Pole time.
# All the electric clocks are usually wrong.
# Something about the generators running at 60.1hertz or something
# makes all of the clocks run fast. So every couple of days,
# we have to go around and set them back 5 minutes or so.
# Maybe if we let them run
# fast all of the time, we'd get to leave here sooner!!
#
Link Antarctica/McMurdo Antarctica/South_Pole
```

Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-
2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/antarctica
No license file was found, but licenses were detected in source scan.
```

/\*

```
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```

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*/

```

Found in path(s):

```

* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-
2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/sun/tools/javazic/DayOfWeek.java
No license file was found, but licenses were detected in source scan.

```

```
# <pre>
```

```
# This file is in the public domain, so clarified as of
# 2009-05-17 by Arthur David Olson.
```

```
# This file also includes Pacific islands.
```

```
# Notes are at the end of this file
```

```
#####
```

```
# Australia
```

```
# Please see the notes below for the controversy about "EST" versus "AEST" etc.
```

```
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
```

```
Rule Aus 1917 only - Jan 1 0:01 1:00 -
```

```
Rule Aus 1917 only - Mar 25 2:00 0 -
```

```
Rule Aus 1942 only - Jan 1 2:00 1:00 -
```

```
Rule Aus 1942 only - Mar 29 2:00 0 -
```

```
Rule Aus 1942 only - Sep 27 2:00 1:00 -
```

```
Rule Aus 1943 1944 - Mar lastSun 2:00 0 -
```

```
Rule Aus 1943 only - Oct 3 2:00 1:00 -
```

```
# Go with Whitman and the Australian National Standards Commission, which
```

# says W Australia didn't use DST in 1943/1944. Ignore Whitman's claim that  
# 1944/1945 was just like 1943/1944.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

# Northern Territory

Zone

Australia/Darwin 8:43:20 - LMT 1895 Feb

9:00 - CST 1899 May

9:30 Aus CST

# Western Australia

#

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule AW 1974 only - Oct lastSun 2:00s 1:00 -

Rule AW 1975 only - Mar Sun>=1 2:00s 0 -

Rule AW 1983 only - Oct lastSun 2:00s 1:00 -

Rule AW 1984 only - Mar Sun>=1 2:00s 0 -

Rule AW 1991 only - Nov 17 2:00s 1:00 -

Rule AW 1992 only - Mar Sun>=1 2:00s 0 -

Rule AW 2006 only - Dec 3 2:00s 1:00 -

Rule AW 2007 2009 - Mar lastSun 2:00s 0 -

Rule AW 2007 2008 - Oct lastSun 2:00s 1:00 -

Zone Australia/Perth 7:43:24 - LMT 1895 Dec

8:00 Aus WST 1943 Jul

8:00 AW WST

Zone Australia/Eucla 8:35:28 - LMT 1895 Dec

8:45 Aus CWST 1943 Jul

8:45 AW CWST

# Queensland

#

# From Alex Livingston (1996-11-01):

# I have heard or read more than once that some resort islands off the coast

# of Queensland chose to keep observing daylight-saving time even after

# Queensland ceased to.

#

# From Paul Eggert (1996-11-22):

# IATA SSIM (1993-02/1994-09)

say that the Holiday Islands (Hayman, Lindeman,

# Hamilton) observed DST for two years after the rest of Queensland stopped.

# Hamilton is the largest, but there is also a Hamilton in Victoria,

# so use Lindeman.

#

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule AQ 1971 only - Oct lastSun 2:00s 1:00 -

Rule AQ 1972 only - Feb lastSun 2:00s 0 -

Rule AQ 1989 1991 - Oct lastSun 2:00s 1:00 -

Rule AQ 1990 1992 - Mar Sun>=1 2:00s 0 -

Rule Holiday 1992 1993 - Oct lastSun 2:00s 1:00 -

Rule Holiday 1993 1994 - Mar Sun>=1 2:00s 0 -  
Zone Australia/Brisbane 10:12:08 - LMT 1895  
10:00 Aus EST 1971  
10:00 AQ EST  
Zone Australia/Lindeman 9:55:56 - LMT 1895  
10:00 Aus EST 1971  
10:00 AQ EST 1992 Jul  
10:00 Holiday EST

# South Australia

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule AS 1971 1985 - Oct lastSun 2:00s 1:00 -  
Rule AS 1986 only - Oct 19 2:00s 1:00 -  
Rule AS 1987 2007 - Oct lastSun 2:00s 1:00 -  
Rule AS 1972 only - Feb 27 2:00s 0 -  
Rule AS 1973 1985 - Mar Sun>=1 2:00s 0 -  
Rule AS 1986 1990 - Mar Sun>=15 2:00s 0 -  
Rule AS 1991 only - Mar 3 2:00s 0 -  
Rule AS 1992 only - Mar 22 2:00s 0 -  
Rule AS 1993 only - Mar 7 2:00s 0 -  
Rule AS 1994 only - Mar 20 2:00s 0 -  
Rule AS 1995 2005 - Mar lastSun 2:00s 0 -  
Rule AS 2006 only - Apr 2 2:00s 0 -  
Rule AS 2007 only - Mar lastSun 2:00s 0 -  
Rule AS 2008 max - Apr Sun>=1 2:00s 0 -  
Rule AS 2008 max - Oct Sun>=1 2:00s 1:00 -

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Australia/Adelaide 9:14:20 - LMT 1895 Feb  
9:00 - CST 1899 May  
9:30 Aus CST 1971  
9:30 AS CST

# Tasmania

#

# From Paul Eggert (2005-08-16):

# <[http://www.bom.gov.au/climate/averages/tables/dst\\_times.shtml](http://www.bom.gov.au/climate/averages/tables/dst_times.shtml)>

# says King Island didn't observe DST from WWII until late 1971.

#

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule AT 1967 only - Oct Sun>=1 2:00s 1:00 -  
Rule AT 1968 only - Mar lastSun 2:00s 0 -  
Rule AT 1968 1985 - Oct lastSun 2:00s 1:00 -  
Rule AT 1969 1971 - Mar Sun>=8 2:00s 0 -  
Rule AT 1972 only - Feb lastSun 2:00s 0 -  
Rule AT 1973 1981 - Mar Sun>=1 2:00s 0 -  
Rule AT 1982 1983 - Mar lastSun 2:00s 0 -  
Rule AT 1984 1986 - Mar Sun>=1 2:00s 0 -

Rule AT 1986 only - Oct Sun>=15 2:00s 1:00 -  
Rule AT 1987 1990 - Mar Sun>=15 2:00s 0 -  
Rule AT 1987 only - Oct Sun>=22 2:00s 1:00 -  
Rule AT 1988 1990 - Oct lastSun 2:00s 1:00 -  
Rule AT 1991 1999 - Oct Sun>=1 2:00s 1:00 -  
Rule AT 1991 2005 - Mar lastSun 2:00s 0 -  
Rule AT 2000 only - Aug lastSun 2:00s 1:00 -  
Rule AT 2001 max - Oct Sun>=1 2:00s 1:00 -  
Rule AT 2006 only - Apr Sun>=1 2:00s 0 -  
Rule AT 2007 only - Mar lastSun 2:00s 0 -  
Rule AT 2008 max - Apr Sun>=1 2:00s 0 -

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Australia/Hobart 9:49:16 - LMT 1895 Sep

10:00 - EST 1916 Oct 1 2:00

10:00 1:00 EST 1917 Feb

10:00 Aus EST 1967

10:00 AT EST

Zone Australia/Currie 9:35:28 - LMT 1895 Sep

10:00 - EST 1916 Oct 1 2:00

10:00 1:00 EST 1917 Feb

10:00 Aus EST 1971 Jul

10:00 AT EST

# Victoria

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule AV 1971 1985 - Oct lastSun 2:00s 1:00 -

Rule AV 1972 only - Feb lastSun 2:00s 0 -

Rule AV 1973 1985 - Mar Sun>=1 2:00s 0 -

Rule AV 1986 1990 - Mar Sun>=15 2:00s 0 -

Rule AV 1986 1987 - Oct Sun>=15 2:00s 1:00 -

Rule AV 1988 1999 - Oct lastSun 2:00s 1:00 -

Rule AV 1991 1994 - Mar Sun>=1 2:00s 0 -

Rule AV 1995 2005 - Mar lastSun 2:00s 0 -

Rule AV 2000 only - Aug lastSun 2:00s 1:00 -

Rule AV 2001 2007 - Oct lastSun 2:00s 1:00 -

Rule AV 2006 only - Apr Sun>=1 2:00s 0 -

Rule AV 2007 only - Mar lastSun 2:00s 0 -

Rule AV 2008 max - Apr Sun>=1 2:00s 0 -

Rule AV 2008 max - Oct Sun>=1 2:00s 1:00 -

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Australia/Melbourne 9:39:52 - LMT 1895 Feb

10:00 Aus EST 1971

10:00 AV EST

# New South Wales

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S



Rule AN 1971 1985 - Oct lastSun 2:00s 1:00 -  
Rule AN 1972 only - Feb 27 2:00s 0 -  
Rule AN 1973 1981 - Mar Sun>=1 2:00s 0 -  
Rule AN 1982 only - Apr Sun>=1 2:00s 0 -  
Rule AN 1983 1985 - Mar Sun>=1 2:00s 0 -  
Rule AN 1986 1989 - Mar Sun>=15 2:00s 0 -  
Rule AN 1986 only - Oct 19 2:00s 1:00 -  
Rule AN 1987 1999 - Oct lastSun 2:00s 1:00 -  
Rule AN 1990 1995 - Mar Sun>=1 2:00s 0 -  
Rule AN 1996 2005 - Mar lastSun 2:00s 0 -  
Rule AN 2000 only - Aug lastSun 2:00s 1:00 -  
Rule AN 2001 2007 - Oct lastSun 2:00s 1:00 -  
Rule AN 2006 only - Apr Sun>=1 2:00s 0 -  
Rule AN 2007 only - Mar lastSun 2:00s 0 -  
Rule AN 2008 max - Apr Sun>=1 2:00s 0 -  
Rule AN 2008 max - Oct Sun>=1 2:00s 1:00 -

#

Zone NAME GMTTOFF RULES FORMAT [UNTIL]

Zone Australia/Sydney 10:04:52 - LMT 1895 Feb

10:00 Aus EST 1971

10:00 AN EST

Zone Australia/Broken\_Hill 9:25:48 - LMT 1895 Feb

10:00 - EST 1896 Aug 23

9:00 - CST 1899 May

9:30 Aus CST 1971

9:30 AN CST 2000

9:30 AS CST

# Lord Howe Island

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule LH 1981 1984 - Oct lastSun 2:00 1:00 -

Rule LH 1982 1985 - Mar Sun>=1 2:00 0 -

Rule LH 1985 only - Oct lastSun 2:00 0:30 -

Rule LH 1986 1989 - Mar Sun>=15 2:00 0 -

Rule LH 1986 only - Oct 19 2:00 0:30 -

Rule LH 1987 1999 - Oct lastSun 2:00 0:30 -

Rule LH 1990 1995 - Mar Sun>=1 2:00 0 -

Rule LH 1996 2005 - Mar lastSun 2:00 0 -

Rule LH 2000 only - Aug lastSun 2:00 0:30 -

Rule LH 2001 2007 - Oct lastSun 2:00 0:30 -

Rule LH 2006 only - Apr Sun>=1 2:00 0 -

Rule LH 2007 only - Mar lastSun 2:00 0 -

Rule LH 2008 max - Apr Sun>=1 2:00 0 -

Rule LH 2008 max - Oct Sun>=1 2:00 0:30 -

Zone

Australia/Lord\_Howe 10:36:20 - LMT 1895 Feb

10:00 - EST 1981 Mar

10:30 LH LHST

# Australian miscellany  
#  
# Ashmore Is, Cartier  
# no indigenous inhabitants; only seasonal caretakers  
# no times are set  
#  
# Coral Sea Is  
# no indigenous inhabitants; only meteorologists  
# no times are set  
#  
# Macquarie  
# Permanent occupation (scientific station) 1911-1915 and since 25 March 1948;  
# sealing and penguin oil station operated Nov 1899 to Apr 1919. See the  
# Tasmania Parks & Wildlife Service history of sealing at Macquarie Island  
# <<http://www.parks.tas.gov.au/index.aspx?base=1828>>  
# <<http://www.parks.tas.gov.au/index.aspx?base=1831>>.  
#  
# Guess that it was like Australia/Hobart while inhabited before 2010.  
#  
# From Steffen Thorsen (2010-03-10):  
# We got these changes from the Australian Antarctic Division:  
# - Macquarie Island will stay on UTC+11 for winter and therefore not  
# switch back from daylight savings time when other parts of Australia do  
# on 4 April.  
Zone Antarctica/Macquarie 0 - zzz 1899 Nov  
10:00 - EST 1916 Oct 1 2:00  
10:00 1:00 EST 1917 Feb  
10:00 Aus EST 1919 Apr  
0 - zzz 1948 Mar 25  
10:00 Aus EST 1967  
10:00 AT EST 2010 Apr 4 3:00  
11:00 - MIST # Macquarie I Standard Time

# Christmas  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Indian/Christmas 7:02:52 - LMT 1895 Feb  
7:00 - CXT # Christmas Island Time

# Cook Is  
# From Shanks & Pottenger:  
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Cook 1978 only - Nov 12 0:00 0:30 HS  
Rule Cook 1979 1991 - Mar Sun>=1 0:00 0 -  
Rule Cook 1979 1990 - Oct lastSun 0:00 0:30 HS  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Pacific/Rarotonga -10:39:04

- LMT 1901 # Avarua  
-10:30 - CKT 1978 Nov 12 # Cook Is Time  
-10:00 Cook CK%ST

# Cocos

# These islands were ruled by the Ross family from about 1830 to 1978.  
# We don't know when standard time was introduced; for now, we guess 1900.  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Indian/Cocos 6:27:40 - LMT 1900  
6:30 - CCT # Cocos Islands Time

# Fiji

# Milne gives 11:55:44 for Suva.

# From Alexander Krivenyshev (2009-11-10):  
# According to Fiji Broadcasting Corporation, Fiji plans to re-introduce DST  
# from November 29th 2009 to April 25th 2010.  
#  
# "Daylight savings to commence this month"  
# <a href="http://www.radiofiji.com.fj/fullstory.php?id=23719">  
# http://www.radiofiji.com.fj/fullstory.php?id=23719  
# </a>  
# or  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_fiji01.html">  
# http://www.worldtimezone.com/dst\_news/dst\_news\_fiji01.html  
# </a>

# From Steffen Thorsen (2009-11-10):  
# The Fiji Government has posted some more details about the approved  
#  
# amendments:  
# <a href="http://www.fiji.gov.fj/publish/page\_16198.shtml">  
# http://www.fiji.gov.fj/publish/page\_16198.shtml  
# </a>

# From Steffen Thorsen (2010-03-03):  
# The Cabinet in Fiji has decided to end DST about a month early, on  
# 2010-03-28 at 03:00.  
# The plan is to observe DST again, from 2010-10-24 to sometime in March  
# 2011 (last Sunday a good guess?).  
#  
# Official source:  
# <a href="http://www.fiji.gov.fj/index.php?option=com\_content&view=article&id=1096:3310-cabinet-approves-change-in-daylight-savings-dates&catid=49:cabinet-releases&Itemid=166">  
# http://www.fiji.gov.fj/index.php?option=com\_content&view=article&id=1096:3310-cabinet-approves-change-in-daylight-savings-dates&catid=49:cabinet-releases&Itemid=166  
# </a>

#  
# A bit more background info here:  
# <a href="http://www.timeanddate.com/news/time/fiji-dst-ends-march-2010.html">  
# http://www.timeanddate.com/news/time/fiji-dst-ends-march-2010.html  
# </a>

# From Alexander Krivenyshev (2010-10-24):  
# According  
# to Radio Fiji and Fiji Times online, Fiji will end DST 3  
# weeks earlier than expected - on March 6, 2011, not March 27, 2011...  
# Here is confirmation from Government of the Republic of the Fiji Islands,  
# Ministry of Information (fiji.gov.fj) web site:  
# <a href="http://www.fiji.gov.fj/index.php?option=com\_content&view=article&id=2608:daylight-savings&catid=71:press-releases&Itemid=155">  
# http://www.fiji.gov.fj/index.php?option=com\_content&view=article&id=2608:daylight-savings&catid=71:press-releases&Itemid=155  
# </a>  
# or  
# <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_fiji04.html">  
# http://www.worldtimezone.com/dst\_news/dst\_news\_fiji04.html  
# </a>

# From Steffen Thorsen (2011-10-03):  
# Now the dates have been confirmed, and at least our start date  
# assumption was correct (end date was one week wrong).  
#  
# <a href="http://www.fiji.gov.fj/index.php?option=com\_content&view=article&id=4966:daylight-saving-starts-in-fiji&catid=71:press-releases&Itemid=155">  
# www.fiji.gov.fj/index.php?option=com\_content&view=article&id=4966:daylight-saving-starts-in-fiji&catid=71:press-releases&Itemid=155  
#  
# </a>  
# which says  
# Members of the public are reminded to change their time to one hour in  
# advance at 2am to 3am on October 23, 2011 and one hour back at 3am to  
# 2am on February 26 next year.

# From Ken Rylander (2011-10-24)  
# Another change to the Fiji DST end date. In the TZ database the end date for  
# Fiji DST 2012, is currently Feb 26. This has been changed to Jan 22.  
#  
# <a href="http://www.fiji.gov.fj/index.php?option=com\_content&view=article&id=5017:amendments-to-daylight-savings&catid=71:press-releases&Itemid=155">  
# http://www.fiji.gov.fj/index.php?option=com\_content&view=article&id=5017:amendments-to-daylight-savings&catid=71:press-releases&Itemid=155  
# </a>  
# states:  
#

```

# The end of daylight saving scheduled initially for the 26th of February 2012
# has been brought forward to the 22nd of January 2012.
# The commencement of daylight saving will remain
  unchanged and start
# on the 23rd of October, 2011.

# From the Fiji Government Online Portal (2012-08-21) via Steffen Thorsen:
# The Minister for Labour, Industrial Relations and Employment Mr Jone Usamate
# today confirmed that Fiji will start daylight savings at 2 am on Sunday 21st
# October 2012 and end at 3 am on Sunday 20th January 2013.
# http://www.fiji.gov.fj/index.php?option=com\_content&view=article&id=6702&catid=71&Itemid=155
#
# From Paul Eggert (2012-08-31):
# For now, guess a pattern of the penultimate Sundays in October and January.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Fiji 1998 1999 - Nov Sun>=1 2:00 1:00 S
Rule Fiji 1999 2000 - Feb lastSun 3:00 0 -
Rule Fiji 2009 only - Nov 29 2:00 1:00 S
Rule Fiji 2010 only - Mar lastSun 3:00 0 -
Rule Fiji 2010 max - Oct Sun>=18 2:00 1:00 S
Rule Fiji 2011 only - Mar Sun>=1 3:00 0 -
Rule Fiji 2012 max - Jan Sun>=18 3:00 0 -
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Pacific/Fiji 11:55:44 - LMT 1915 Oct 26 # Suva
  12:00 Fiji FJ%sT #
  Fiji Time

# French Polynesia
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Pacific/Gambier -8:59:48 - LMT 1912 Oct # Rikitea
  -9:00 - GAMT # Gambier Time
Zone Pacific/Marquesas -9:18:00 - LMT 1912 Oct
  -9:30 - MART # Marquesas Time
Zone Pacific/Tahiti -9:58:16 - LMT 1912 Oct # Papeete
  -10:00 - TAHT # Tahiti Time
# Clipperton (near North America) is administered from French Polynesia;
# it is uninhabited.

# Guam
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Pacific/Guam -14:21:00 - LMT 1844 Dec 31
  9:39:00 - LMT 1901 # Agana
  10:00 - GST 2000 Dec 23 # Guam
  10:00 - ChST # Chamorro Standard Time

# Kiribati
# Zone NAME GMTOFF RULES FORMAT [UNTIL]

```

Zone Pacific/Tarawa 11:32:04 - LMT 1901 # Bairiki

12:00 - GILT # Gilbert Is Time

Zone Pacific/Enderbury -11:24:20 - LMT 1901

-12:00 - PHOT 1979 Oct # Phoenix Is Time

-11:00 - PHOT 1995

13:00 - PHOT

Zone Pacific/Kiritimati -10:29:20 - LMT 1901

-10:40 - LINT 1979 Oct # Line Is Time

-10:00 - LINT 1995

14:00 - LINT

# N Mariana Is

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Saipan -14:17:00 - LMT 1844 Dec 31

9:43:00 - LMT 1901

9:00 - MPT 1969 Oct # N Mariana Is Time

10:00 - MPT 2000 Dec 23

10:00 - ChST # Chamorro Standard Time

# Marshall Is

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Majuro 11:24:48 - LMT 1901

11:00 - MHT 1969 Oct # Marshall Islands Time

12:00 - MHT

Zone Pacific/Kwajalein 11:09:20 - LMT 1901

11:00 - MHT 1969 Oct

-12:00 - KWAT 1993 Aug 20 # Kwajalein Time

12:00 - MHT

# Micronesia

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Chuuk 10:07:08 - LMT 1901

10:00 - CHUT # Chuuk Time

Zone Pacific/Pohnpei 10:32:52 - LMT 1901 # Kolonia

11:00 - PONT # Pohnpei Time

Zone Pacific/Kosrae 10:51:56 - LMT 1901

11:00 - KOST 1969 Oct # Kosrae Time

12:00 - KOST 1999

11:00 - KOST

# Nauru

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Nauru 11:07:40 - LMT 1921 Jan 15 # Uaobe

11:30 - NRT 1942

Mar 15 # Nauru Time

9:00 - JST 1944 Aug 15

11:30 - NRT 1979 May

12:00 - NRT

# New Caledonia

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule NC 1977 1978 - Dec Sun>=1 0:00 1:00 S

Rule NC 1978 1979 - Feb 27 0:00 0 -

Rule NC 1996 only - Dec 1 2:00s 1:00 S

# Shanks & Pottenger say the following was at 2:00; go with IATA.

Rule NC 1997 only - Mar 2 2:00s 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Noumea 11:05:48 - LMT 1912 Jan 13

11:00 NC NC%sT

#####

# New Zealand

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule NZ 1927 only - Nov 6 2:00 1:00 S

Rule NZ 1928 only - Mar 4 2:00 0 M

Rule NZ 1928 1933 - Oct Sun>=8 2:00 0:30 S

Rule NZ 1929 1933 - Mar Sun>=15 2:00 0 M

Rule NZ 1934 1940 - Apr lastSun 2:00 0 M

Rule NZ 1934 1940 - Sep lastSun 2:00 0:30 S

Rule NZ 1946 only - Jan 1 0:00 0 S

# Since 1957 Chatham has been 45 minutes ahead of NZ, but there's no

# convenient notation

for this so we must duplicate the Rule lines.

Rule NZ 1974 only - Nov Sun>=1 2:00s 1:00 D

Rule Chatham 1974 only - Nov Sun>=1 2:45s 1:00 D

Rule NZ 1975 only - Feb lastSun 2:00s 0 S

Rule Chatham 1975 only - Feb lastSun 2:45s 0 S

Rule NZ 1975 1988 - Oct lastSun 2:00s 1:00 D

Rule Chatham 1975 1988 - Oct lastSun 2:45s 1:00 D

Rule NZ 1976 1989 - Mar Sun>=1 2:00s 0 S

Rule Chatham 1976 1989 - Mar Sun>=1 2:45s 0 S

Rule NZ 1989 only - Oct Sun>=8 2:00s 1:00 D

Rule Chatham 1989 only - Oct Sun>=8 2:45s 1:00 D

Rule NZ 1990 2006 - Oct Sun>=1 2:00s 1:00 D

Rule Chatham 1990 2006 - Oct Sun>=1 2:45s 1:00 D

Rule NZ 1990 2007 - Mar Sun>=15 2:00s 0 S

Rule Chatham 1990 2007 - Mar Sun>=15 2:45s 0 S

Rule NZ 2007 max - Sep lastSun 2:00s 1:00 D

Rule Chatham 2007 max - Sep lastSun 2:45s 1:00 D

Rule NZ 2008 max - Apr Sun>=1 2:00s 0 S

Rule Chatham 2008 max - Apr Sun>=1 2:45s 0 S

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Auckland 11:39:04 - LMT 1868 Nov 2

11:30 NZ NZ%sT 1946 Jan 1

12:00 NZ NZ%sT

Zone

Pacific/Chatham 12:13:48 - LMT 1957 Jan 1

12:45 Chatham CHA%sT

# Auckland Is

# uninhabited; Maori and Moriori, colonial settlers, pastoralists, sealers,

# and scientific personnel have wintered

# Campbell I

# minor whaling stations operated 1909/1914

# scientific station operated 1941/1995;

# previously whalers, sealers, pastoralists, and scientific personnel wintered

# was probably like Pacific/Auckland

#####

# Niue

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Niue -11:19:40 - LMT 1901 # Alofi

-11:20 - NUT 1951 # Niue Time

-11:30 - NUT 1978 Oct 1

-11:00 - NUT

# Norfolk

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Norfolk 11:11:52 - LMT 1901 # Kingston

11:12 - NMT 1951 # Norfolk Mean Time

11:30 - NFT # Norfolk Time

# Palau (Belau)

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Palau 8:57:56 - LMT 1901 # Koror

9:00 - PWT # Palau Time

# Papua

New Guinea

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Port\_Moresby 9:48:40 - LMT 1880

9:48:32 - PMMT 1895 # Port Moresby Mean Time

10:00 - PGT # Papua New Guinea Time

# Pitcairn

# Zone NAME GMTOFF RULES FORMAT [UNTIL]



Zone Pacific/Pitcairn -8:40:20 - LMT 1901 # Adamstown

-8:30 - PNT 1998 Apr 27 00:00

-8:00 - PST # Pitcairn Standard Time

# American Samoa

Zone Pacific/Pago\_Pago 12:37:12 - LMT 1879 Jul 5

-11:22:48 - LMT 1911

-11:30 - SAMT 1950 # Samoa Time

-11:00 - NST 1967 Apr # N=None

-11:00 - BST 1983 Nov 30 # B=Bering

-11:00 - SST # S=Samoa

# Samoa

# From Steffen Thorsen (2009-10-16):

# We have been in contact with the government of Samoa again, and received

# the following info:

#

# "Cabinet has now approved Daylight Saving to be effected next year

# commencing from the last Sunday of September 2010 and conclude first

# Sunday of April 2011."

#

# Background info:

# <a href="http://www.timeanddate.com/news/time/samoa-dst-plan-2009.html">

#

http://www.timeanddate.com/news/time/samoa-dst-plan-2009.html

# </a>

#

# Samoa's Daylight Saving Time Act 2009 is available here, but does not

# contain any dates:

# <a

href="http://www.parliament.gov.ws/documents/acts/Daylight%20Saving%20Act%20%202009%20%28English%20%20Final%207-7-091.pdf">

#

http://www.parliament.gov.ws/documents/acts/Daylight%20Saving%20Act%20%202009%20%28English%29%20%20Final%207-7-091.pdf

# </a>

# From Laupue Raymond Hughes (2010-10-07):

# Please see

# <a href="http://www.mcil.gov.ws">

# http://www.mcil.gov.ws

# </a>,

# the Ministry of Commerce, Industry and Labour (sideframe) "Last Sunday

# September 2010 (26/09/10) - adjust clocks forward from 12:00 midnight

# to 01:00am and First Sunday April 2011 (03/04/11) - adjust clocks

# backwards from 1:00am to 12:00am"

# From Laupue Raymond Hughes (2011-03-07):  
# I believe this will be posted shortly on the website  
# <a href="http://www.mcil.gov.ws">  
# www.mcil.gov.ws  
# </a>  
#  
# PUBLIC NOTICE ON DAYLIGHT SAVING  
# TIME  
#  
# Pursuant to the Daylight Saving Act 2009 and Cabinets decision,  
# businesses and the general public are hereby advised that daylight  
# saving time is on the first Saturday of April 2011 (02/04/11).  
#  
# The public is therefore advised that when the standard time strikes  
# the hour of four oclock (4.00am or 0400 Hours) on the 2nd April 2011,  
# then all instruments used to measure standard time are to be  
# adjusted/changed to three oclock (3:00am or 0300Hrs).  
#  
# Margaret Fruean ACTING CHIEF EXECUTIVE OFFICER MINISTRY OF COMMERCE,  
# INDUSTRY AND LABOUR 28th February 2011

# From David Zuelke (2011-05-09):  
# Subject: Samoa to move timezone from east to west of international date line  
#  
# <a href="http://www.morningstar.co.uk/uk/markets/newsfeeditem.aspx?id=138501958347963">  
# http://www.morningstar.co.uk/uk/markets/newsfeeditem.aspx?id=138501958347963  
# </a>

# From Mark Sim-Smith (2011-08-17):  
# I have been in contact with Leilani Tuala Warren from the Samoa Law  
# Reform Commission,  
# and she has sent me a copy of the Bill that she  
# confirmed has been passed...Most of the sections are about maps rather  
# than the time zone change, but I'll paste the relevant bits below. But  
# the essence is that at midnight 29 Dec (UTC-11 I suppose), Samoa  
# changes from UTC-11 to UTC+13:  
#  
# International Date Line Bill 2011  
#  
# AN ACT to provide for the change to standard time in Samoa and to make  
# consequential amendments to the position of the International Date  
# Line, and for related purposes.  
#  
# BE IT ENACTED by the Legislative Assembly of Samoa in Parliament  
# assembled as follows:  
#  
# 1. Short title and commencement-(1) This Act may be cited as the  
# International Date Line Act 2011. (2) Except for section 5(3) this Act

# commences at 12 o'clock midnight, on Thursday 29th December 2011. (3)  
# Section 5(3) commences on the date of assent by the Head of State.  
#  
# [snip]  
#  
# 3. Interpretation - [snip] "Samoa standard time" in this Act and any  
# other statute of Samoa  
# which refers to 'Samoa standard time' means the  
# time 13 hours in advance of Co-ordinated Universal Time.  
#  
# 4. Samoa standard time - (1) Upon the commencement of this Act, Samoa  
# standard time shall be set at 13 hours in advance of Co-ordinated  
# Universal Time for the whole of Samoa. (2) All references to Samoa's  
# time zone and to Samoa standard time in Samoa in all legislation and  
# instruments after the commencement of this Act shall be references to  
# Samoa standard time as provided for in this Act. (3) Nothing in this  
# Act affects the provisions of the Daylight Saving Act 2009, except that  
# it defines Samoa standard time....

# From Laupue Raymond Hughes (2011-09-02):  
# <a href="http://www.mcil.gov.ws/mcil\_publications.html">  
# http://www.mcil.gov.ws/mcil\_publications.html  
# </a>  
#  
# here is the official website publication for Samoa DST and dateline change  
#  
# DST  
# Year End Time Start Time  
# 2011 - - - - - 24 September 3:00am to 4:00am  
# 2012 01 April 4:00am to 3:00am -  
# - - - - -  
#  
# Dateline Change skip Friday 30th Dec 2011  
# Thursday 29th December 2011 23:59:59 Hours  
# Saturday 31st December 2011 00:00:00 Hours  
#  
# Clarification by Tim Parenti (2012-01-03):  
# Although Samoa has used Daylight Saving Time in the 2010-2011 and 2011-2012  
# seasons, there is not yet any indication that this trend will continue on  
# a regular basis. For now, we have explicitly listed the transitions below.  
#  
# From Nicky (2012-09-10):  
# Daylight Saving Time commences on Sunday 30th September 2012 and  
# ends on Sunday 7th of April 2013.  
#  
# Please find link below for more information.  
# http://www.mcil.gov.ws/mcil\_publications.html  
#

# That publication also includes dates for Summer of 2013/4 as well  
# which give the impression of a pattern in selecting dates for the  
# future, so for now, we will guess this will continue.

# Western Samoa

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule WS 2012 max - Sep lastSun 3:00 1 D

Rule WS 2012 max - Apr Sun>=1 4:00 0 -

# Zone NAME GMTTOFF RULES FORMAT [UNTIL]

Zone

Pacific/Apia 12:33:04 - LMT 1879 Jul 5

-11:26:56 - LMT 1911

-11:30 - SAMT 1950 # Samoa Time

-11:00 - WST 2010 Sep 26

-11:00 1:00 WSDT 2011 Apr 2 4:00

-11:00 - WST 2011 Sep 24 3:00

-11:00 1:00 WSDT 2011 Dec 30

13:00 1:00 WSDT 2012 Apr Sun>=1 4:00

13:00 WS WS%sT

# Solomon Is

# excludes Bougainville, for which see Papua New Guinea

# Zone NAME GMTTOFF RULES FORMAT [UNTIL]

Zone Pacific/Guadalcanal 10:39:48 - LMT 1912 Oct # Honiara

11:00 - SBT # Solomon Is Time

# Tokelau Is

#

# From Gwillim Law (2011-12-29)

# A correspondent informed me that Tokelau, like Samoa, will be skipping

# December 31 this year ...

#

# From Steffen Thorsen (2012-07-25)

# ... we double checked by calling hotels and offices based in Tokelau asking

# about the time there, and they all told a time that agrees with UTC+13....

# Shanks says UTC-10 from 1901 [but] ... there is a good chance the change

# actually was to UTC-11 back then.

#

# From Paul

Eggert (2012-07-25)

# A Google Books snippet of Appendix to the Journals of the House of

# Representatives of New Zealand, Session 1948,

# <<http://books.google.com/books?id=ZaVCAQAIAAJ>>, page 65, says Tokelau

# was "11 hours slow on G.M.T." Go with Thorsen and assume Shanks & Pottenger

# are off by an hour starting in 1901.

# Zone NAME GMTTOFF RULES FORMAT [UNTIL]

Zone Pacific/Fakaofu -11:24:56 - LMT 1901

-11:00 - TKT 2011 Dec 30 # Tokelau Time

13:00 - TKT

# Tonga

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Tonga 1999 only - Oct 7 2:00s 1:00 S

Rule Tonga 2000 only - Mar 19 2:00s 0 -

Rule Tonga 2000 2001 - Nov Sun>=1 2:00 1:00 S

Rule Tonga 2001 2002 - Jan lastSun 2:00 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Tongatapu 12:19:20 - LMT 1901

12:20 - TOT 1941 # Tonga Time

13:00 - TOT 1999

13:00 Tonga TO%sT

# Tuvalu

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Funafuti 11:56:52 - LMT 1901

12:00 - TVT # Tuvalu Time

# US minor outlying

islands

# Howland, Baker

# Howland was mined for guano by American companies 1857-1878 and British

# 1886-1891; Baker was similar but exact dates are not known.

# Inhabited by civilians 1935-1942; U.S. military bases 1943-1944;

# uninhabited thereafter.

# Howland observed Hawaii Standard Time (UTC-10:30) in 1937;

# see page 206 of Elgen M. Long and Marie K. Long,

# Amelia Earhart: the Mystery Solved, Simon & Schuster (2000).

# So most likely Howland and Baker observed Hawaii Time from 1935

# until they were abandoned after the war.

# Jarvis

# Mined for guano by American companies 1857-1879 and British 1883?-1891?.

# Inhabited by civilians 1935-1942; IGY scientific base 1957-1958;

# uninhabited thereafter.

# no information; was probably like Pacific/Kiritimati

# Johnston

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Pacific/Johnston -10:00 - HST

# Kingman

# uninhabited

```

# Midway
#
# From Mark Brader (2005-01-23):
# [Fallacies and Fantasies of Air Transport History, by R.E.G. Davies,
#
# published 1994 by Paladwr Press, McLean, VA, USA; ISBN 0-9626483-5-3]
# reproduced a Pan American Airways timeables from 1936, for their weekly
# "Orient Express" flights between San Francisco and Manila, and connecting
# flights to Chicago and the US East Coast. As it uses some time zone
# designations that I've never seen before:....
# Fri. 6:30A Lv. HONOLOLU (Pearl Harbor), H.I. H.L.T. Ar. 5:30P Sun.
# " 3:00P Ar. MIDWAY ISLAND . . . . . M.L.T. Lv. 6:00A "
#
Zone Pacific/Midway -11:49:28 - LMT 1901
-11:00 - NST 1956 Jun 3
-11:00 1:00 NDT 1956 Sep 2
-11:00 - NST 1967 Apr # N=Nome
-11:00 - BST 1983 Nov 30 # B=Bering
-11:00 - SST # S=Samoa

```

```

# Palmyra
# uninhabited since World War II; was probably like Pacific/Kiritimati

```

```

# Wake
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Pacific/Wake 11:06:28 - LMT 1901
12:00 - WAKT # Wake Time

```

```

# Vanuatu
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Vanuatu 1983 only - Sep 25 0:00 1:00 S
Rule Vanuatu 1984 1991 - Mar Sun>=23 0:00 0 -
Rule Vanuatu 1984 only - Oct 23 0:00 1:00 S
Rule Vanuatu 1985 1991 - Sep Sun>=23 0:00 1:00 S
Rule Vanuatu 1992 1993 - Jan Sun>=23 0:00 0 -
Rule Vanuatu 1992 only - Oct Sun>=23 0:00 1:00 S
#
Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Pacific/Efate 11:13:16 - LMT 1912 Jan 13 # Vila
11:00 Vanuatu VU%ST # Vanuatu Time

```

```

# Wallis and Futuna
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Pacific/Wallis 12:15:20 - LMT 1901
12:00 - WFT # Wallis & Futuna Time

```

```
#####
```

# NOTES

# This data is by no means authoritative; if you think you know better,  
# go ahead and edit the file (and please send any changes to  
# tz@iana.org for general use in the future).

# From Paul Eggert (2013-02-21):

# A good source for time zone historical data outside the U.S. is  
# Thomas G. Shanks and Rique Pottenger, *The International Atlas* (6th edition),  
# San Diego: ACS Publications, Inc. (2003).

#

# Gwillim

Law writes that a good source

# for recent time zone data is the International Air Transport  
# Association's Standard Schedules Information Manual (IATA SSIM),  
# published semiannually. Law sent in several helpful summaries  
# of the IATA's data after 1990.

#

# Except where otherwise noted, Shanks & Pottenger is the source for  
# entries through 1990, and IATA SSIM is the source for entries afterwards.

#

# Another source occasionally used is Edward W. Whitman, *World Time Differences*,  
# Whitman Publishing Co, 2 Niagara Av, Ealing, London (undated), which  
# I found in the UCLA library.

#

# For data circa 1899, a common source is:

# Milne J. Civil time. *Geogr J.* 1899 Feb;13(2):173-94

# <<http://www.jstor.org/stable/1774359>>.

#

# A reliable and entertaining source about time zones is

# Derek Howse, *Greenwich time and longitude*, Philip Wilson Publishers (1997).

#

# I invented the abbreviations marked `\*' in the following table;

# the rest are from earlier versions of this file, or from other  
sources.

# Corrections are welcome!

# std dst

# LMT Local Mean Time

# 8:00 WST WST Western Australia

# 8:45 CWST CWST Central Western Australia\*

# 9:00 JST Japan

# 9:30 CST CST Central Australia

# 10:00 EST EST Eastern Australia

# 10:00 ChST Chamorro

# 10:30 LHST LHST Lord Howe\*

# 11:30 NZMT NZST New Zealand through 1945

# 12:00 NZST NZDT New Zealand 1946-present

# 12:45 CHAST CHADT Chatham\*

# -11:00 SST Samoa

# -10:00 HST Hawaii

# - 8:00 PST Pitcairn\*

#

# See the `northamerica' file for Hawaii.

# See the `southamerica' file for Easter I and the Galapagos Is.

#####

# Australia

# From Paul Eggert (2005-12-08):

# <a href="http://www.bom.gov.au/climate/averages/tables/dst\_times.shtml">

# Implementation Dates of Daylight Saving Time within Australia

# </a> summarizes daylight saving issues in Australia.

# From Arthur David Olson (2005-12-12):

# <a

href="http://www.lawlink.nsw.gov.au/lawlink/Corporate/ll\_agdinfo.nsf/pages/community\_relations\_daylight\_saving">

#

Lawlink NSW:Daylight Saving in New South Wales

# </a> covers New South Wales in particular.

# From John Mackin (1991-03-06):

# We in Australia have `_never_` referred to DST as `daylight' time.

# It is called `summer' time. Now by a happy coincidence, `summer'

# and `standard' happen to start with the same letter; hence, the

# abbreviation does `_not_` change...

# The legislation does not actually define abbreviations, at least

# in this State, but the abbreviation is just commonly taken to be the

# initials of the phrase, and the legislation here uniformly uses

# the phrase `summer time' and does not use the phrase `daylight

# time'.

# Announcers on the Commonwealth radio network, the ABC (for Australian

# Broadcasting Commission), use the phrases `Eastern Standard Time'

# or `Eastern Summer Time'. (Note, though, that as I say in the

# current `austrasia` file, there is really no such thing.) Announcers

# on its overseas

service, Radio Australia, use the same phrases

# prefixed by the word `Australian' when referring to local times;

# time announcements on that service, naturally enough, are made in UTC.

# From Arthur David Olson (1992-03-08):

# Given the above, what's chosen for year-round use is:

# CST for any place operating at a GMT`OFF` of 9:30

# WST for any place operating at a GMT`OFF` of 8:00



# EST for any place operating at a GMTOFF of 10:00

# From Chuck Soper (2006-06-01):  
# I recently found this Australian government web page on time zones:  
# <<http://www.australia.gov.au/about-australia-13time>>  
# And this government web page lists time zone names and abbreviations:  
# <<http://www.bom.gov.au/climate/averages/tables/daysavtm.shtml>>

# From Paul Eggert (2001-04-05), summarizing a long discussion about "EST"  
# versus "AEST" etc.:  
#  
# I see the following points of dispute:  
#  
# \* How important are unique time zone abbreviations?  
#  
# Here I tend to agree with the point (most recently made by Chris  
# Newman) that unique abbreviations should not be essential for proper  
# operation of software. We have other instances of ambiguity  
# (e.g. "IST" denoting both "Israel Standard Time" and "Indian  
# Standard Time"), and they are not likely to go away any time soon.  
# In the old days, some software mistakenly relied on unique  
# abbreviations, but this is becoming less true with time, and I don't  
# think it's that important to cater to such software these days.  
#  
# On the other hand, there is another motivation for unambiguous  
# abbreviations: it cuts down on human confusion. This is  
# particularly true for Australia, where "EST" can mean one thing for  
# time T and a different thing for time T plus 1 second.  
#  
# \* Does the relevant legislation indicate which abbreviations should be used?  
#  
# Here I tend to think that things are a mess, just as they are in  
# many other countries. We Americans are currently disagreeing about  
# which abbreviation to use for the  
# newly legislated Chamorro Standard  
# Time, for example.  
#  
# Personally, I would prefer to use common practice; I would like to  
# refer to legislation only for examples of common practice, or as a  
# tiebreaker.  
#  
# \* Do Australians more often use "Eastern Daylight Time" or "Eastern  
# Summer Time"? Do they typically prefix the time zone names with  
# the word "Australian"?  
#  
# My own impression is that both "Daylight Time" and "Summer Time" are  
# common and are widely understood, but that "Summer Time" is more

```
# popular; and that the leading "A" is also common but is omitted more
# often than not. I just used AltaVista advanced search and got the
# following count of page hits:
#
# 1,103 "Eastern Summer Time" AND domain:au
# 971 "Australian Eastern Summer Time" AND domain:au
# 613 "Eastern Daylight Time" AND domain:au
# 127 "Australian Eastern Daylight Time" AND domain:au
#
# Here "Summer" seems quite a bit more popular than "Daylight",
#
# particularly when we know the time zone is Australian and not US,
# say. The "Australian" prefix seems to be popular for Eastern Summer
# Time, but unpopular for Eastern Daylight Time.
#
# For abbreviations, tools like AltaVista are less useful because of
# ambiguity. Many hits are not really time zones, unfortunately, and
# many hits denote US time zones and not Australian ones. But here
# are the hit counts anyway:
#
# 161,304 "EST" and domain:au
# 25,156 "EDT" and domain:au
# 18,263 "AEST" and domain:au
# 10,416 "AEDT" and domain:au
#
# 14,538 "CST" and domain:au
# 5,728 "CDT" and domain:au
# 176 "ACST" and domain:au
# 29 "ACDT" and domain:au
#
# 7,539 "WST" and domain:au
# 68 "AWST" and domain:au
#
# This data suggest that Australians tend to omit the "A" prefix in
# practice. The situation for "ST" versus "DT" is less clear, given
# the ambiguities involved.
#
# * How do Australians feel about the
# abbreviations in the tz database?
#
# If you just count Australians on this list, I count 2 in favor and 3
# against. One of the "against" votes (David Keegel) counseled delay,
# saying that both AEST/AEDT and EST/EST are widely used and
# understood in Australia.

# From Paul Eggert (1995-12-19):
# Shanks & Pottenger report 2:00 for all autumn changes in Australia and NZ.
# Mark Prior writes that his newspaper
```

# reports that NSW's fall 1995 change will occur at 2:00,  
# but Robert Elz says it's been 3:00 in Victoria since 1970  
# and perhaps the newspaper's `2:00' is referring to standard time.  
# For now we'll continue to assume 2:00s for changes since 1960.

# From Eric Ulevik (1998-01-05):  
#  
# Here are some URLs to Australian time legislation. These URLs are stable,  
# and should probably be included in the data file. There are probably more  
# relevant entries in this database.  
#  
# NSW (including LHI and Broken Hill):  
# <a href="http://www.austlii.edu.au/au/legis/nsw/consol\_act/sta1987137/index.html">  
#  
# Standard Time Act 1987 (updated 1995-04-04)  
# </a>  
# ACT  
# <a href="http://www.austlii.edu.au/au/legis/act/consol\_act/stasta1972279/index.html">  
# Standard Time and Summer Time Act 1972  
# </a>  
# SA  
# <a href="http://www.austlii.edu.au/au/legis/sa/consol\_act/sta1898137/index.html">  
# Standard Time Act, 1898  
# </a>

# From David Grosz (2005-06-13):  
# It was announced last week that Daylight Saving would be extended by  
# one week next year to allow for the 2006 Commonwealth Games.  
# Daylight Saving is now to end for next year only on the first Sunday  
# in April instead of the last Sunday in March.  
#  
# From Gwillim Law (2005-06-14):  
# I did some Googling and found that all of those states (and territory) plan  
# to extend DST together in 2006.  
# ACT: <http://www.cmd.act.gov.au/mediareleases/fileread.cfm?file=86.txt>  
# New South Wales:  
[http://www.thecouriermail.news.com.au/common/story\\_page/0,5936,15538869%255E1702,00.html](http://www.thecouriermail.news.com.au/common/story_page/0,5936,15538869%255E1702,00.html)  
# South Australia: <http://www.news.com.au/story/0,10117,15555031-1246,00.html>  
#  
# Tasmania: <http://www.media.tas.gov.au/release.php?id=14772>  
# Victoria: I wasn't able to find anything separate, but the other articles  
# allude to it.  
# But not Queensland  
# <http://www.news.com.au/story/0,10117,15564030-1248,00.html>.

# Northern Territory

# From George Shepherd via Simon Woodhead via Robert Elz (1991-03-06):

# # The NORTHERN TERRITORY.. [ Courtesy N.T. Dept of the Chief Minister ]  
# # [ Nov 1990 ]  
# # N.T. have never utilised any DST due to sub-tropical/tropical location.  
# ...  
# Zone Australia/North 9:30 - CST

# From Bradley White (1991-03-04):  
# A recent excerpt from an Australian newspaper...  
# the Northern Territory do[es] not have daylight saving.

# Western Australia

# From George Shepherd via Simon Woodhead via Robert Elz (1991-03-06):  
# # The state of WESTERN AUSTRALIA.. [ Courtesy W.A. dept Premier+Cabinet ]  
# # [ Nov 1990 ]  
# # W.A. suffers from a great deal of public and political  
opposition to  
# # DST in principle. A bill is brought before parliament in most years, but  
# # usually defeated either in the upper house, or in party caucus  
# # before reaching parliament.  
# ...  
# Zone Australia/West 8:00 AW %sST  
# ...  
# Rule AW 1974 only - Oct lastSun 2:00 1:00 D  
# Rule AW 1975 only - Mar Sun>=1 3:00 0 W  
# Rule AW 1983 only - Oct lastSun 2:00 1:00 D  
# Rule AW 1984 only - Mar Sun>=1 3:00 0 W

# From Bradley White (1991-03-04):  
# A recent excerpt from an Australian newspaper...  
# Western Australia...do[es] not have daylight saving.

# From John D. Newman via Bradley White (1991-11-02):  
# Western Australia is still on "winter time". Some DH in Sydney  
# rang me at home a few days ago at 6.00am. (He had just arrived at  
# work at 9.00am.)  
# W.A. is switching to Summer Time on Nov 17th just to confuse  
# everybody again.

# From Arthur David Olson (1992-03-08):  
# The 1992 ending date used in the rules is a best guess;  
# it matches what was used in the past.

# <a href="http://www.bom.gov.au/faq/faqgen.htm">  
#

The Australian Bureau of Meteorology FAQ  
# </a> (1999-09-27) writes that Giles Meteorological Station uses  
# South Australian time even though it's located in Western Australia.

# Queensland  
# From George Shepherd via Simon Woodhead via Robert Elz (1991-03-06):  
## The state of QUEENSLAND.. [ Courtesy Qld. Dept Premier Econ&Trade Devel ]  
## [ Dec 1990 ]  
# ...  
# Zone Australia/Queensland 10:00 AQ %sST  
# ...  
# Rule AQ 1971 only - Oct lastSun 2:00 1:00 D  
# Rule AQ 1972 only - Feb lastSun 3:00 0 E  
# Rule AQ 1989 max - Oct lastSun 2:00 1:00 D  
# Rule AQ 1990 max - Mar Sun>=1 3:00 0 E

# From Bradley White (1989-12-24):  
# "Australia/Queensland" now observes daylight time (i.e. from  
# October 1989).

# From Bradley White (1991-03-04):  
# A recent excerpt from an Australian newspaper...  
# ...Queensland...[has] agreed to end daylight saving  
# at 3am tomorrow (March 3)...

# From John Mackin (1991-03-06):  
# I can certainly confirm for my part that Daylight  
# Saving in NSW did in fact  
# end on Sunday, 3 March. I don't know at what hour, though. (It surprised  
# me.)

# From Bradley White (1992-03-08):  
# ...there was recently a referendum in Queensland which resulted  
# in the experimental daylight saving system being abandoned. So, ...  
# ...  
# Rule QLD 1989 1991 - Oct lastSun 2:00 1:00 D  
# Rule QLD 1990 1992 - Mar Sun>=1 3:00 0 S  
# ...

# From Arthur David Olson (1992-03-08):  
# The chosen rules the union of the 1971/1972 change and the 1989-1992 changes.

# From Christopher Hunt (2006-11-21), after an advance warning  
# from Jesper Norgaard Welen (2006-11-01):  
# WA are trialing DST for three years.  
# <[http://www.parliament.wa.gov.au/parliament/bills.nsf/9A1B183144403DA54825721200088DF1/\\$File/Bill175-1B.pdf](http://www.parliament.wa.gov.au/parliament/bills.nsf/9A1B183144403DA54825721200088DF1/$File/Bill175-1B.pdf)>

# From Rives McDow (2002-04-09):  
# The most interesting region I have found consists of three towns on the  
# southern coast.... South Australia observes daylight saving time; Western

# Australia does not. The two states are one and  
a half hours apart. The  
# residents decided to forget about this nonsense of changing the clock so  
# much and set the local time 20 hours and 45 minutes from the  
# international date line, or right in the middle of the time of South  
# Australia and Western Australia....  
#  
# From Paul Eggert (2002-04-09):  
# This is confirmed by the section entitled  
# "What's the deal with time zones???" in  
# <<http://www.earthsci.unimelb.edu.au/~awatkins/null.html>>.  
#  
# From Alex Livingston (2006-12-07):  
# ... it was just on four years ago that I drove along the Eyre Highway,  
# which passes through eastern Western Australia close to the southern  
# coast of the continent.  
#  
# I paid particular attention to the time kept there. There can be no  
# dispute that UTC+08:45 was considered "the time" from the border  
# village just inside the border with South Australia to as far west  
# as just east of Caiguna. There can also be no dispute that Eucla is  
# the largest population centre in this zone....  
#  
# Now that  
Western Australia is observing daylight saving, the  
# question arose whether this part of the state would follow suit. I  
# just called the border village and confirmed that indeed they have,  
# meaning that they are now observing UTC+09:45.  
#  
# (2006-12-09):  
# I personally doubt that either experimentation with daylight saving  
# in WA or its introduction in SA had anything to do with the genesis  
# of this time zone. My hunch is that it's been around since well  
# before 1975. I remember seeing it noted on road maps decades ago.  
  
# From Paul Eggert (2006-12-15):  
# For lack of better info, assume the tradition dates back to the  
# introduction of standard time in 1895.  
  
# southeast Australia  
#  
# From Paul Eggert (2007-07-23):  
# Starting autumn 2008 Victoria, NSW, South Australia, Tasmania and the ACT  
# end DST the first Sunday in April and start DST the first Sunday in October.  
# <http://www.theage.com.au/news/national/daylight-savings-to-span-six-months/2007/06/27/1182623966703.html>

#

South Australia

# From Bradley White (1991-03-04):

# A recent excerpt from an Australian newspaper...

# ...South Australia...[has] agreed to end daylight saving

# at 3am tomorrow (March 3)...

# From George Shepherd via Simon Woodhead via Robert Elz (1991-03-06):

# # The state of SOUTH AUSTRALIA....[ Courtesy of S.A. Dept of Labour ]

# # [ Nov 1990 ]

# ...

# Zone Australia/South 9:30 AS %sST

# ...

# Rule AS 1971 max - Oct lastSun 2:00 1:00 D

# Rule AS 1972 1985 - Mar Sun>=1 3:00 0 C

# Rule AS 1986 1990 - Mar Sun>=15 3:00 0 C

# Rule AS 1991 max - Mar Sun>=1 3:00 0 C

# From Bradley White (1992-03-11):

# Recent correspondence with a friend in Adelaide

# contained the following exchange: "Due to the Adelaide Festival,

# South Australia delays setting back our clocks for a few weeks."

# From Robert Elz (1992-03-13):

# I heard that apparently (or at least, it appears that)

# South Aus will have an extra 3 weeks daylight saving every even

# numbered year (from 1990). That's

when the Adelaide Festival

# is on...

# From Robert Elz (1992-03-16, 00:57:07 +1000):

# DST didn't end in Adelaide today (yesterday)....

# But whether it's "4th Sunday" or "2nd last Sunday" I have no idea whatever...

# (it's just as likely to be "the Sunday we pick for this year"....).

# From Bradley White (1994-04-11):

# If Sun, 15 March, 1992 was at +1030 as kre asserts, but yet Sun, 20 March,

# 1994 was at +0930 as John Connolly's customer seems to assert, then I can

# only conclude that the actual rule is more complicated....

# From John Warburton (1994-10-07):

# The new Daylight Savings dates for South Australia ...

# was gazetted in the Government Hansard on Sep 26 1994....

# start on last Sunday in October and end in last Sunday in March.

# From Paul Eggert (2007-07-23):

# See "southeast Australia" above for 2008 and later.

# Tasmania

# The rules for 1967 through 1991 were reported by George Shepherd  
# via Simon Woodhead via Robert Elz (1991-03-06):  
# # The state of TASMANIA..  
# [Courtesy Tasmanian Dept of Premier + Cabinet ]  
# # [ Nov 1990 ]

# From Bill Hart via Guy Harris (1991-10-10):  
# Oh yes, the new daylight savings rules are uniquely tasmanian, we have  
# 6 weeks a year now when we are out of sync with the rest of Australia  
# (but nothing new about that).

# From Alex Livingston (1999-10-04):  
# I heard on the ABC (Australian Broadcasting Corporation) radio news on the  
# (long) weekend that Tasmania, which usually goes its own way in this regard,  
# has decided to join with most of NSW, the ACT, and most of Victoria  
# (Australia) and start daylight saving on the last Sunday in August in 2000  
# instead of the first Sunday in October.

# Sim Alam (2000-07-03) reported a legal citation for the 2000/2001 rules:  
# <http://www.thelaw.tas.gov.au/fragview/42++1968+GS3A@EN+2000070300>

# From Paul Eggert (2007-07-23):  
# See "southeast Australia" above for 2008 and later.

# Victoria

# The rules for 1971 through 1991 were reported by George Shepherd  
# via  
# Simon Woodhead via Robert Elz (1991-03-06):  
# # The state of VICTORIA.. [ Courtesy of Vic. Dept of Premier + Cabinet ]  
# # [ Nov 1990 ]

# From Scott Harrington (2001-08-29):  
# On KQED's "City Arts and Lectures" program last night I heard an  
# interesting story about daylight savings time. Dr. John Heilbron was  
# discussing his book "The Sun in the Church: Cathedrals as Solar  
# Observatories"[1], and in particular the Shrine of Remembrance[2] located  
# in Melbourne, Australia.  
#  
# Apparently the shrine's main purpose is a beam of sunlight which  
# illuminates a special spot on the floor at the 11th hour of the 11th day  
# of the 11th month (Remembrance Day) every year in memory of Australia's  
# fallen WWI soldiers. And if you go there on Nov. 11, at 11am local time,  
# you will indeed see the sunbeam illuminate the special spot at the  
# expected time.



#  
# However, that is only because of some special mirror contraption that had  
# to be employed, since due to daylight savings time,  
# the true solar time of  
# the remembrance moment occurs one hour later (or earlier?). Perhaps  
# someone with more information on this jury-rig can tell us more.  
#  
# [1] <http://www.hup.harvard.edu/catalog/HEISUN.html>  
# [2] <http://www.shrine.org.au>

# From Paul Eggert (2007-07-23):  
# See "southeast Australia" above for 2008 and later.

# New South Wales

# From Arthur David Olson:  
# New South Wales and subjurisdictions have their own ideas of a fun time.  
# Based on law library research by John Mackin,  
# who notes:  
# In Australia, time is not legislated federally, but rather by the  
# individual states. Thus, while such terms as ``Eastern Standard Time"  
# [I mean, of course, Australian EST, not any other kind] are in common  
# use, \_they have NO REAL MEANING\_, as they are not defined in the  
# legislation. This is very important to understand.  
# I have researched New South Wales time only...

# From Eric Ulevik (1999-05-26):  
# DST will start in NSW on the last Sunday of August, rather  
# than the usual  
# October in 2000. [See: Matthew Moore,  
# <http://www.smh.com.au/news/9905/26/pageone/pageone4.html>]  
# Two months more daylight saving  
# [</a>](#)  
# Sydney Morning Herald (1999-05-26).]

# From Paul Eggert (1999-09-27):  
# See the following official NSW source:  
# <http://dir.gis.nsw.gov.au/cgi-bin/genobject/document/other/daylightsaving/tigGmZ>  
# Daylight Saving in New South Wales.  
# [</a>](#)  
#  
# Narrabri Shire (NSW) council has announced it will ignore the extension of  
# daylight saving next year. See:  
# <http://abc.net.au/news/regionals/neweng/monthly/regeng-22jul1999-1.htm>  
# Narrabri Council to ignore daylight saving  
# [</a>](#) (1999-07-22). For now, we'll wait to see if this really happens.  
#  
# Victoria will following NSW. See:

# <a href="http://abc.net.au/local/news/olympics/1999/07/item19990728112314\_1.htm">  
# Vic to extend daylight saving  
# </a> (1999-07-28).  
#  
# However, South Australia rejected the DST request. See:  
# <a href="http://abc.net.au/news/olympics/1999/07/item19990719151754\_1.htm">  
#  
# South Australia rejects Olympics daylight savings request  
# </a> (1999-07-19).  
#  
# Queensland also will not observe DST for the Olympics. See:  
# <a href="http://abc.net.au/news/olympics/1999/06/item19990601114608\_1.htm">  
# Qld says no to daylight savings for Olympics  
# </a> (1999-06-01), which quotes Queensland Premier Peter Beattie as saying  
# ``Look you've got to remember in my family when this came up last time  
# I voted for it, my wife voted against it and she said to me it's all very  
# well for you, you don't have to worry about getting the children out of  
# bed, getting them to school, getting them to sleep at night.  
# I've been through all this argument domestically...my wife rules."  
#  
# Broken Hill will stick with South Australian time in 2000. See:  
# <a href="http://abc.net.au/news/regionals/brokenh/monthly/regbrok-21jul1999-6.htm">  
# Broken Hill to be behind the times  
# </a> (1999-07-21).  
  
# IATA SSIM (1998-09) says that  
# the spring 2000 change for Australian  
# Capital Territory, New South Wales except Lord Howe Island and Broken  
# Hill, and Victoria will be August 27, presumably due to the Sydney Olympics.  
  
# From Eric Ulevik, referring to Sydney's Sun Herald (2000-08-13), page 29:  
# The Queensland Premier Peter Beattie is encouraging northern NSW  
# towns to use Queensland time.  
  
# From Paul Eggert (2007-07-23):  
# See "southeast Australia" above for 2008 and later.  
  
# Yancowinna  
  
# From John Mackin (1989-01-04):  
# `Broken Hill' means the County of Yancowinna.  
  
# From George Shepherd via Simon Woodhead via Robert Elz (1991-03-06):  
# # YANCOWINNA.. [ Confirmation courtesy of Broken Hill Postmaster ]  
# # [ Dec 1990 ]  
# ...  
# # Yancowinna uses Central Standard Time, despite [its] location on the  
# # New South Wales side of the S.A. border. Most business and social dealings

# # are with CST zones, therefore CST is legislated by local government  
# # although the switch to Summer Time occurs in line with  
N.S.W. There have  
# # been years when this did not apply, but the historical data is not  
# # presently available.  
# Zone Australia/Yancowinna 9:30 AY %sST  
# ...  
# Rule AY 1971 1985 - Oct lastSun 2:00 1:00 D  
# Rule AY 1972 only - Feb lastSun 3:00 0 C  
# [followed by other Rules]

# Lord Howe Island

# From George Shepherd via Simon Woodhead via Robert Elz (1991-03-06):  
# LHI... [ Courtesy of Pauline Van Winsen ]  
# [ Dec 1990 ]  
# Lord Howe Island is located off the New South Wales coast, and is half an  
# hour ahead of NSW time.

# From James Lonergan, Secretary, Lord Howe Island Board (2000-01-27):  
# Lord Howe Island summer time in 2000/2001 will commence on the same  
# date as the rest of NSW (i.e. 2000-08-27). For your information the  
# Lord Howe Island Board (controlling authority for the Island) is  
# seeking the community's views on various options for summer time  
# arrangements on the Island, e.g. advance clocks by 1 full hour  
# instead of only 30 minutes. [Dependent] on  
the wishes of residents  
# the Board may approach the NSW government to change the existing  
# arrangements. The starting date for summer time on the Island will  
# however always coincide with the rest of NSW.

# From James Lonergan, Secretary, Lord Howe Island Board (2000-10-25):  
# Lord Howe Island advances clocks by 30 minutes during DST in NSW and retards  
# clocks by 30 minutes when DST finishes. Since DST was most recently  
# introduced in NSW, the "changeover" time on the Island has been 02:00 as  
# shown on clocks on LHI. I guess this means that for 30 minutes at the start  
# of DST, LHI is actually 1 hour ahead of the rest of NSW.

# From Paul Eggert (2006-03-22):  
# For Lord Howe dates we use Shanks & Pottenger through 1989, and  
# Lonergan thereafter. For times we use Lonergan.

# From Paul Eggert (2007-07-23):  
# See "southeast Australia" above for 2008 and later.

# From Steffen Thorsen (2009-04-28):  
# According to the official press release, South Australia's extended daylight  
#

```

saving period will continue with the same rules as used during the 2008-2009
# summer (southern hemisphere).
#
# From
# <a href="http://www.safework.sa.gov.au/uploaded_files/DaylightDatesSet.pdf">
# http://www.safework.sa.gov.au/uploaded_files/DaylightDatesSet.pdf
# </a>
# The extended daylight saving period that South Australia has been trialling
# for over the last year is now set to be ongoing.
# Daylight saving will continue to start on the first Sunday in October each
# year and finish on the first Sunday in April the following year.
# Industrial Relations Minister, Paul Caica, says this provides South Australia
# with a consistent half hour time difference with NSW, Victoria, Tasmania and
# the ACT for all 52 weeks of the year...
#
# We have a wrap-up here:
# <a href="http://www.timeanddate.com/news/time/south-australia-extends-dst.html">
# http://www.timeanddate.com/news/time/south-australia-extends-dst.html
# </a>
#####

#
New Zealand

# From Mark Davies (1990-10-03):
# the 1989/90 year was a trial of an extended "daylight saving" period.
# This trial was deemed successful and the extended period adopted for
# subsequent years (with the addition of a further week at the start).
# source -- phone call to Ministry of Internal Affairs Head Office.

# From George Shepherd via Simon Woodhead via Robert Elz (1991-03-06):
# # The Country of New Zealand (Australia's east island -) Gee they hate that!
# # or is Australia the west island of N.Z.
# # [ courtesy of Geoff Tribble.. Auckland N.Z. ]
# # [ Nov 1990 ]
# ...
# Rule NZ 1974 1988 - Oct lastSun 2:00 1:00 D
# Rule NZ 1989 max - Oct Sun>=1 2:00 1:00 D
# Rule NZ 1975 1989 - Mar Sun>=1 3:00 0 S
# Rule NZ 1990 max - Mar lastSun 3:00 0 S
# ...
# Zone NZ 12:00 NZ NZ%sT # New Zealand
# Zone NZ-CHAT 12:45 - NZ-CHAT # Chatham Island

# From Arthur David Olson (1992-03-08):
# The chosen rules use the Davies October 8
# values for the start of DST in 1989
# rather than the October 1 value.

```

# From Paul Eggert (1995-12-19);  
# Shank & Pottenger report 2:00 for all autumn changes in Australia and NZ.  
# Robert Uzgalis writes that the New Zealand Daylight  
# Savings Time Order in Council dated 1990-06-18 specifies 2:00 standard  
# time on both the first Sunday in October and the third Sunday in March.  
# As with Australia, we'll assume the tradition is 2:00s, not 2:00.  
#  
# From Paul Eggert (2006-03-22):  
# The Department of Internal Affairs (DIA) maintains a brief history,  
# as does Carol Squires; see tz-link.htm for the full references.  
# Use these sources in preference to Shanks & Pottenger.  
#  
# For Chatham, IATA SSIM (1991/1999) gives the NZ rules but with  
# transitions at 2:45 local standard time; this confirms that Chatham  
# is always exactly 45 minutes ahead of Auckland.  
  
# From Colin Sharples (2007-04-30):  
# DST will now start on the last Sunday in September, and end on the  
# first Sunday in April. The  
# changes take effect this year, meaning  
# that DST will begin on 2007-09-30 2008-04-06.  
# [http://www.dia.govt.nz/diawebsite.nsf/wpg\\_URL/Services-Daylight-Saving-Daylight-saving-to-be-extended](http://www.dia.govt.nz/diawebsite.nsf/wpg_URL/Services-Daylight-Saving-Daylight-saving-to-be-extended)

#####

# Fiji

# Howse writes (p 153) that in 1879 the British governor of Fiji  
# enacted an ordinance standardizing the islands on Antipodean Time  
# instead of the American system (which was one day behind).

# From Rives McDow (1998-10-08):  
# Fiji will introduce DST effective 0200 local time, 1998-11-01  
# until 0300 local time 1999-02-28. Each year the DST period will  
# be from the first Sunday in November until the last Sunday in February.

# From Paul Eggert (2000-01-08):  
# IATA SSIM (1999-09) says DST ends 0100 local time. Go with McDow.

# From the BBC World Service (1998-10-31 11:32 UTC):  
# The Fijian government says the main reasons for the time change is to  
# improve productivity and reduce road accidents. But  
# correspondents say it  
# also hopes the move will boost Fiji's ability to compete with other pacific  
# islands in the effort to attract tourists to witness the dawning of the new  
# millenium.

# [http://www.fiji.gov.fj/press/2000\\_09/2000\\_09\\_13-05.shtml](http://www.fiji.gov.fj/press/2000_09/2000_09_13-05.shtml) (2000-09-13)

# reports that Fiji has discontinued DST.

# Johnston

# Johnston data is from usno1995.

# Kiribati

# From Paul Eggert (1996-01-22):

# Today's *Wall Street Journal* (page 1) reports that Kiribati

# ``declared it the same day [throughout] the country as of Jan. 1, 1995"

# as part of the competition to be first into the 21st century.

# Kwajalein

# In comp.risks 14.87 (26 August 1993), Peter Neumann writes:

# I wonder what happened in Kwajalein, where there was NO Friday,

# 1993-08-20. Thursday night at midnight Kwajalein switched sides with

# respect to the International Date Line, to rejoin its fellow islands,

# going from 11:59 p.m. Thursday to 12:00 m. Saturday in a blink.

# N Mariana Is, Guam

# Howse writes (p 153)

``The Spaniards, on the other hand, reached the

# Philippines and the Ladrões from America," and implies that the Ladrões

# (now called the Marianas) kept American date for quite some time.

# For now, we assume the Ladrões switched at the same time as the Philippines;

# see Asia/Manila.

# US Public Law 106-564 (2000-12-23) made UTC+10 the official standard time,

# under the name "Chamorro Standard Time". There is no official abbreviation,

# but Congressman Robert A. Underwood, author of the bill that became law,

# wrote in a press release (2000-12-27) that he will seek the use of "ChST".

# Micronesia

# Alan Eugene Davis writes (1996-03-16),

# ``I am certain, having lived there for the past decade, that "Truk"

# (now properly known as Chuuk) ... is in the time zone GMT+10."

#

# Shanks & Pottenger write that Truk switched from UTC+10 to UTC+11

# on 1978-10-01; ignore this for now.

# From Paul Eggert (1999-10-29):

# The Federated States of Micronesia Visitors Board writes in

#

<a href="http://www.fsmgov.org/info/clocks.html">

# The Federated States of Micronesia - Visitor Information

# </a> (1999-01-26)

# that Truk and Yap are UTC+10, and Ponape and Kosrae are UTC+11.

# We don't know when Kosrae switched from UTC+12; assume January 1 for now.

# Midway

# From Charles T O'Connor, KMTH DJ (1956),

# quoted in the KTMH section of the Radio Heritage Collection

# <http://radiodx.com/spdxr/KMTH.htm> (2002-12-31):

# For the past two months we've been on what is known as Daylight

# Saving Time. This time has put us on air at 5am in the morning,

# your time down there in New Zealand. Starting September 2, 1956

# we'll again go back to Standard Time. This'll mean that we'll go to

# air at 6am your time.

#

# From Paul Eggert (2003-03-23):

# We don't know the date of that quote, but we'll guess they

# started DST on June 3. Possibly DST was observed other years

# in Midway, but we have no record of it.

# Pitcairn

# From Rives McDow (1999-11-08):

# A Proclamation

was signed by the Governor of Pitcairn on the 27th March 1998

# with regard to Pitcairn Standard Time. The Proclamation is as follows.

#

# The local time for general purposes in the Islands shall be

# Co-ordinated Universal time minus 8 hours and shall be known

# as Pitcairn Standard Time.

#

# ... I have also seen Pitcairn listed as UTC minus 9 hours in several

# references, and can only assume that this was an error in interpretation

# somehow in light of this proclamation.

# From Rives McDow (1999-11-09):

# The Proclamation regarding Pitcairn time came into effect on 27 April 1998

# ... at midnight.

# From Howie Phelps (1999-11-10), who talked to a Pitcairner via shortwave:  
# Betty Christian told me yesterday that their local time is the same as  
# Pacific Standard Time. They used to be 1/2 hour different from us here in  
# Sacramento but it was changed a couple of years ago.

# Samoa

# Howse writes (p 153, citing p 10 of the 1883-11-18 New York Herald)  
# that in 1879 the King  
# of Samoa decided to change  
# the date in his kingdom from the Antipodean to the American system,  
# ordaining -- by a masterpiece of diplomatic flattery -- that  
# the Fourth of July should be celebrated twice in that year."

# Tonga

# From Paul Eggert (1996-01-22):  
# Today's *Wall Street Journal* (p 1) reports that "Tonga has been plotting  
# to sneak ahead of [New Zealanders] by introducing daylight-saving time."  
# Since Kiribati has moved the Date Line it's not clear what Tonga will do.

# Don Mundell writes in the 1997-02-20 *Tonga Chronicle*  
# <http://www.tongatapu.net.to/tonga/homeland/timebegins.htm>  
# How Tonga became 'The Land where Time Begins'  
# </a>:

# Until 1941 Tonga maintained a standard time 50 minutes ahead of NZST  
# 12 hours and 20 minutes ahead of GMT. When New Zealand adjusted its  
# standard time in 1940s, Tonga had the choice of subtracting from its  
# local time to come on the same standard time as New Zealand or of  
# advancing its time to maintain the  
# differential of 13 degrees  
# (approximately 50 minutes ahead of New Zealand time).

#  
# Because His Majesty King Taufa'ahau Tupou IV, then Crown Prince  
# Tungi, preferred to ensure Tonga's title as the land where time  
# begins, the Legislative Assembly approved the latter change.

#  
# But some of the older, more conservative members from the outer  
# islands objected. "If at midnight on Dec. 31, we move ahead 40  
# minutes, as your Royal Highness wishes, what becomes of the 40  
# minutes we have lost?"

#  
# The Crown Prince, presented an unanswerable argument: "Remember that  
# on the World Day of Prayer, you would be the first people on Earth  
# to say your prayers in the morning."



# From Paul Eggert (2006-03-22):  
# Shanks & Pottenger say the transition was on 1968-10-01; go with Mundell.

# From Eric Ulevik (1999-05-03):  
# Tonga's director of tourism, who is also secretary of the National Millennium  
# Committee, has a plan to get Tonga back in front.  
# He has proposed a one-off move to tropical  
# daylight saving for Tonga from  
# October to March, which has won approval in principle from the Tongan  
# Government.

# From Steffen Thorsen (1999-09-09):  
# \* Tonga will introduce DST in November  
#  
# I was given this link by John Letts:  
# <a href="http://news.bbc.co.uk/hi/english/world/asia-pacific/newsid\_424000/424764.stm">  
# http://news.bbc.co.uk/hi/english/world/asia-pacific/newsid\_424000/424764.stm  
# </a>  
#  
# I have not been able to find exact dates for the transition in November  
# yet. By reading this article it seems like Fiji will be 14 hours ahead  
# of UTC as well, but as far as I know Fiji will only be 13 hours ahead  
# (12 + 1 hour DST).

# From Arthur David Olson (1999-09-20):  
# According to <a href="http://www.tongaonline.com/news/sept1799.html">  
# http://www.tongaonline.com/news/sept1799.html  
# </a>:  
# "Daylight Savings Time will take effect on Oct. 2 through April 15, 2000  
# and annually thereafter from the first Saturday in October through the  
# third Saturday of April.  
# Under the system approved by Privy Council on  
# Sept. 10, clocks must be turned ahead one hour on the opening day and  
# set back an hour on the closing date."  
# Alas, no indication of the time of day.

# From Rives McDow (1999-10-06):  
# Tonga started its Daylight Saving on Saturday morning October 2nd at 0200am.  
# Daylight Saving ends on April 16 at 0300am which is Sunday morning.

# From Steffen Thorsen (2000-10-31):  
# Back in March I found a notice on the website <http://www.tongaonline.com>  
# that Tonga changed back to standard time one month early, on March 19  
# instead of the original reported date April 16. Unfortunately, the article  
# is no longer available on the site, and I did not make a copy of the  
# text, and I have forgotten to report it here.  
# (Original URL was: <http://www.tongaonline.com/news/march162000.htm> )

# From Rives McDow (2000-12-01):  
# Tonga is observing DST as of 2000-11-04 and will stop on 2001-01-27.

# From Sione Moala-Mafi (2001-09-20) via Rives McDow:  
#  
# At 2:00am on the first Sunday of November, the standard time in the Kingdom  
# shall be moved forward by one hour to 3:00am. At 2:00am on the last Sunday  
# of January the standard time in the Kingdom shall be moved backward by one  
# hour to 1:00am.

# From Pulu 'Anau (2002-11-05):  
# The law was for 3 years, supposedly to get renewed. It wasn't.

# Wake

# From Vernice Anderson, Personal Secretary to Philip Jessup,  
# US Ambassador At Large (oral history interview, 1971-02-02):  
#  
# Saturday, the 14th [of October, 1950] -- ... The time was all the  
# more confusing at that point, because we had crossed the  
# International Date Line, thus getting two Sundays. Furthermore, we  
# discovered that Wake Island had two hours of daylight saving time  
# making calculation of time in Washington difficult if not almost  
# impossible.  
#  
# <http://www.trumanlibrary.org/wake/meeting.htm>

# From Paul Eggert (2003-03-23):  
# We have no other report of DST in Wake Island, so omit this info for now.

#####

#  
# The International Date Line

# From Gwillim Law (2000-01-03):  
#  
# The International Date Line is not defined by any international standard,  
# convention, or treaty. Mapmakers are free to draw it as they please.  
# Reputable mapmakers will simply ensure that every point of land appears on  
# the correct side of the IDL, according to the date legally observed there.  
#  
# When Kiribati adopted a uniform date in 1995, thereby moving the Phoenix and  
# Line Islands to the west side of the IDL (or, if you prefer, moving the IDL  
# to the east side of the Phoenix and Line Islands), I suppose that most  
# mapmakers redrew the IDL following the boundary of Kiribati. Even that line

# has a rather arbitrary nature. The straight-line boundaries between Pacific  
# island nations that are shown on many maps are based on an international  
# convention, but are not legally binding national borders.... The date is  
# governed by  
the IDL; therefore, even on the high seas, there may be some  
# places as late as fourteen hours later than UTC. And, since the IDL is not  
# an international standard, there are some places on the high seas where the  
# correct date is ambiguous.

# From Wikipedia <[http://en.wikipedia.org/wiki/Time\\_zone](http://en.wikipedia.org/wiki/Time_zone)> (2005-08-31):  
# Before 1920, all ships kept local apparent time on the high seas by setting  
# their clocks at night or at the morning sight so that, given the ship's  
# speed and direction, it would be 12 o'clock when the Sun crossed the ship's  
# meridian (12 o'clock = local apparent noon). During 1917, at the  
# Anglo-French Conference on Time-keeping at Sea, it was recommended that all  
# ships, both military and civilian, should adopt hourly standard time zones  
# on the high seas. Whenever a ship was within the territorial waters of any  
# nation it would use that nation's standard time. The captain was permitted  
# to change his ship's clocks at a time of his choice following his ship's  
#  
entry into another zone time--he often chose midnight. These zones were  
# adopted by all major fleets between 1920 and 1925 but not by many  
# independent merchant ships until World War II.

# From Paul Eggert, using references suggested by Oscar van Vlijmen  
# (2005-03-20):  
#  
# The American Practical Navigator (2002)  
# <[http://pollux.nss.nima.mil/pubs/pubs\\_j\\_apn\\_sections.html?rid=187](http://pollux.nss.nima.mil/pubs/pubs_j_apn_sections.html?rid=187)>  
# talks only about the 180-degree meridian with respect to ships in  
# international waters; it ignores the international date line.

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-  
2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/australasia  
No license file was found, but licenses were detected in source scan.

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#

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone GMT 0:00 - GMT

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-  
2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxG/tzdata\_jdk/gmt

No license file was found, but licenses were detected in source scan.

# <pre>

# This file is in the public domain, so clarified as of

# 2009-05-17 by Arthur David Olson.

# This data is by no means authoritative; if you think you know better,

# go ahead and edit the file (and please send any changes to

# [tz@iana.org](mailto:tz@iana.org) for general use in the future).

# From Paul Eggert (2006-03-22):

# A good source for time zone historical data outside the U.S. is

# Thomas G. Shanks and Rique Pottenger, The International Atlas (6th edition),

# San Diego: ACS Publications, Inc. (2003).

#

# For data circa 1899, a common source is:

# Milne J. Civil time. Geogr J. 1899 Feb;13(2):173-94

# <<http://www.jstor.org/stable/1774359>>.

#

# Gwillim Law writes that a good source

# for recent time zone data is the International Air Transport

# Association's Standard Schedules Information Manual (IATA SSIM),

# published semiannually. Law sent in several helpful summaries

# of the IATA's data after 1990.

#

# Except where

```

otherwise noted, Shanks & Pottenger is the source for
# entries through 1990, and IATA SSIM is the source for entries afterwards.
#
# Earlier editions of these tables used the North American style (e.g. ARST and
# ARDT for Argentine Standard and Daylight Time), but the following quote
# suggests that it's better to use European style (e.g. ART and ARST).
# I suggest the use of _Summer time_ instead of the more cumbersome
# _daylight-saving time_. _Summer time_ seems to be in general use
# in Europe and South America.
# -- E O Cutler, _New York Times_ (1937-02-14), quoted in
# H L Mencken, _The American Language: Supplement I_ (1960), p 466
#
# Earlier editions of these tables also used the North American style
# for time zones in Brazil, but this was incorrect, as Brazilians say
# "summer time". Reinaldo Goulart, a Sao Paulo businessman active in
# the railroad sector, writes (1999-07-06):
# The subject of time zones is currently a matter of discussion/debate in
# Brazil. Let's say
# that "the Brasilia time" is considered the
# "official time" because Brasilia is the capital city.
# The other three time zones are called "Brasilia time "minus one" or
# "plus one" or "plus two". As far as I know there is no such
# name/designation as "Eastern Time" or "Central Time".
# So I invented the following (English-language) abbreviations for now.
# Corrections are welcome!
# std dst
# -2:00 FNT FNST Fernando de Noronha
# -3:00 BRT BRST Brasilia
# -4:00 AMT AMST Amazon
# -5:00 ACT ACST Acre

#####

#####

# Argentina

# From Bob Devine (1988-01-28):
# Argentina: first Sunday in October to first Sunday in April since 1976.
# Double Summer time from 1969 to 1974. Switches at midnight.

# From U. S. Naval Observatory (1988-01-199):
# ARGENTINA      3 H BEHIND  UTC

# From Hernan G. Otero (1995-06-26):
# I am sending modifications
# to the Argentine time zone table...
# AR was chosen because they are the ISO letters that represent Argentina.

```

```

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Arg 1930 only - Dec 1 0:00 1:00 S
Rule Arg 1931 only - Apr 1 0:00 0 -
Rule Arg 1931 only - Oct 15 0:00 1:00 S
Rule Arg 1932 1940 - Mar 1 0:00 0 -
Rule Arg 1932 1939 - Nov 1 0:00 1:00 S
Rule Arg 1940 only - Jul 1 0:00 1:00 S
Rule Arg 1941 only - Jun 15 0:00 0 -
Rule Arg 1941 only - Oct 15 0:00 1:00 S
Rule Arg 1943 only - Aug 1 0:00 0 -
Rule Arg 1943 only - Oct 15 0:00 1:00 S
Rule Arg 1946 only - Mar 1 0:00 0 -
Rule Arg 1946 only - Oct 1 0:00 1:00 S
Rule Arg 1963 only - Oct 1 0:00 0 -
Rule Arg 1963 only - Dec 15 0:00 1:00 S
Rule Arg 1964 1966 - Mar 1 0:00 0 -
Rule Arg 1964 1966 - Oct 15 0:00 1:00 S
Rule Arg 1967 only - Apr 2 0:00 0 -
Rule Arg 1967 1968 - Oct Sun>=1 0:00 1:00 S
Rule Arg 1968 1969 - Apr Sun>=1 0:00 0 -
Rule Arg 1974 only - Jan 23 0:00 1:00 S
Rule Arg 1974 only - May 1 0:00 0 -
Rule Arg 1988 only - Dec
1 0:00 1:00 S
#
# From Hernan G. Otero (1995-06-26):
# These corrections were contributed by InterSoft Argentina S.A.,
# obtaining the data from the:
# Talleres de Hidrografia Naval Argentina
# (Argentine Naval Hydrography Institute)
Rule Arg 1989 1993 - Mar Sun>=1 0:00 0 -
Rule Arg 1989 1992 - Oct Sun>=15 0:00 1:00 S
#
# From Hernan G. Otero (1995-06-26):
# From this moment on, the law that mandated the daylight saving
# time corrections was derogated and no more modifications
# to the time zones (for daylight saving) are now made.
#
# From Rives McDow (2000-01-10):
# On October 3, 1999, 0:00 local, Argentina implemented daylight savings time,
# which did not result in the switch of a time zone, as they stayed 9 hours
# from the International Date Line.
Rule Arg 1999 only - Oct Sun>=1 0:00 1:00 S
# From Paul Eggert (2007-12-28):
# DST was set to expire on March 5, not March 3, but since it was converted
# to standard time on March 3 it's more convenient for us to pretend that
#

```

it ended on March 3.

Rule Arg 2000 only - Mar 3 0:00 0 -

#

# From Peter Gradelski via Steffen Thorsen (2000-03-01):

# We just checked with our Sao Paulo office and they say the government of  
# Argentina decided not to become one of the countries that go on or off DST.  
# So Buenos Aires should be -3 hours from GMT at all times.

#

# From Fabian L. Arce Jofre (2000-04-04):

# The law that claimed DST for Argentina was derogated by President Fernando  
# de la Rúa on March 2, 2000, because it would make people spend more energy  
# in the winter time, rather than less. The change took effect on March 3.

#

# From Mariano Absatz (2001-06-06):

# one of the major newspapers here in Argentina said that the 1999  
# Timezone Law (which never was effectively applied) will (would?) be  
# in effect.... The article is at  
# <http://ar.clarin.com/diario/2001-06-06/e-01701.htm>  
# ... The Law itself is "Ley No 25155", sanctioned on 1999-08-25, enacted  
# 1999-09-17, and published 1999-09-21. The official publication  
is at:

# <http://www.boletin.jus.gov.ar/BON/Primera/1999/09-Septiembre/21/PDF/BO21-09-99LEG.PDF>  
# Regretfully, you have to subscribe (and pay) for the on-line version....

#

# (2001-06-12):

# the timezone for Argentina will not change next Sunday.  
# Apparently it will do so on Sunday 24th....  
# <http://ar.clarin.com/diario/2001-06-12/s-03501.htm>

#

# (2001-06-25):

# Last Friday (yes, the last working day before the date of the change), the  
# Senate annulled the 1999 law that introduced the changes later postponed.  
# <http://www.clarin.com.ar/diario/2001-06-22/s-03601.htm>  
# It remains the vote of the Deputies..., but it will be the same....  
# This kind of things had always been done this way in Argentina.  
# We are still -03:00 all year round in all of the country.

#

# From Steffen Thorsen (2007-12-21):

# A user (Leonardo Chaim) reported that Argentina will adopt DST....  
# all of the country (all Zone-entries) are affected. News reports like  
# [http://www.lanacion.com.ar/opinion/nota.asp?nota\\_id=973037](http://www.lanacion.com.ar/opinion/nota.asp?nota_id=973037)  
indicate

# that Argentina will use DST next year as well, from October to  
# March, although exact rules are not given.

#

# From Jesper Norgaard Welen (2007-12-26)

# The last hurdle of Argentina DST is over, the proposal was approved in  
# the lower chamber too (Deputados) with a vote 192 for and 2 against.

```
# By the way thanks to Mariano Absatz and Daniel Mario Vega for the link to
# the original scanned proposal, where the dates and the zero hours are
# clear and unambiguous...This is the article about final approval:
# <a href="http://www.lanacion.com.ar/politica/nota.asp?nota_id=973996">
# http://www.lanacion.com.ar/politica/nota.asp?nota_id=973996
# </a>
#
# From Paul Eggert (2007-12-22):
# For dates after mid-2008, the following rules are my guesses and
# are quite possibly wrong, but are more likely than no DST at all.

# From Alexander Krivenyshev (2008-09-05):
# As per message from Carlos Alberto Fonseca Arauz (Nicaragua),
# Argentina will start DST on Sunday October
# 19, 2008.
#
# <a href="http://www.worldtimezone.com/dst_news/dst_news_argentina03.html">
# http://www.worldtimezone.com/dst_news/dst_news_argentina03.html
# </a>
# OR
# <a href="http://www.impulsobaires.com.ar/nota.php?id=57832 (in spanish)">
# http://www.impulsobaires.com.ar/nota.php?id=57832 (in spanish)
# </a>

# From Rodrigo Severo (2008-10-06):
# Here is some info available at a Gentoo bug related to TZ on Argentina's DST:
# ...
# ----- Comment #1 from [jmdocile] 2008-10-06 16:28 0000 -----
# Hi, there is a problem with timezone-data-2008e and maybe with
# timezone-data-2008f
# Argentinian law [Number] 25.155 is no longer valid.
# <a href="http://www.infoleg.gov.ar/infolegInternet/anexos/60000-64999/60036/norma.htm">
# http://www.infoleg.gov.ar/infolegInternet/anexos/60000-64999/60036/norma.htm
# </a>
# The new one is law [Number] 26.350
# <a href="http://www.infoleg.gov.ar/infolegInternet/anexos/135000-139999/136191/norma.htm">
# http://www.infoleg.gov.ar/infolegInternet/anexos/135000-139999/136191/norma.htm
#
# </a>
# So there is no summer time in Argentina for now.

# From Mariano Absatz (2008-10-20):
# Decree 1693/2008 applies Law 26.350 for the summer 2008/2009 establishing DST in Argentina
# From 2008-10-19 until 2009-03-15
# <a
# href="http://www.boletinoficial.gov.ar/Bora.Portal/CustomControls/PdfContent.aspx?fp=16102008&pi=3&pf=4&s
# =0&sec=01">
#
```



<http://www.boletinoficial.gov.ar/Bora.Portal/CustomControls/PdfContent.aspx?fp=16102008&pi=3&pf=4&s=0&sec=01>  
# </a>  
#  
# Decree 1705/2008 excepting 12 Provinces from applying DST in the summer 2008/2009:  
# Catamarca, La Rioja, Mendoza, Salta, San Juan, San Luis, La Pampa, Neuquen, Rio Negro, Chubut, Santa Cruz  
# and Tierra del Fuego  
# <a  
href="http://www.boletinoficial.gov.ar/Bora.Portal/CustomControls/PdfContent.aspx?fp=17102008&pi=1&pf=1&s=0&sec=01">  
#  
http://www.boletinoficial.gov.ar/Bora.Portal/CustomControls/PdfContent.aspx?fp=17102008&pi=1&pf=1&s=0&sec=01  
# </a>  
#  
# Press release 235 dated Saturday  
October 18th, from the Government of the Province of Jujuy saying  
# it will not apply DST either (even when it was not included in Decree 1705/2008)  
# <a href="http://www.jujuy.gov.ar/index2/partes\_prensa/18\_10\_08/235-181008.doc">  
# http://www.jujuy.gov.ar/index2/partes\_prensa/18\_10\_08/235-181008.doc  
# </a>

# From fullinet (2009-10-18):  
# As announced in  
# <a href="http://www.argentina.gob.ar/argentina/portal/paginas.dhtml?pagina=356">  
# http://www.argentina.gob.ar/argentina/portal/paginas.dhtml?pagina=356  
# </a>  
# (an official .gob.ar) under title: "Sin Cambio de Hora" (english: "No hour change")  
#  
# "Por el momento, el Gobierno Nacional resolvio no modificar la hora  
# oficial, decision que estaba en estudio para su implementacion el  
# domingo 18 de octubre. Desde el Ministerio de Planificacion se anuncio  
# que la Argentina hoy, en estas condiciones meteorologicas, no necesita  
# la modificacion del huso horario, ya que 2009 nos encuentra con  
# crecimiento en la produccion y distribucion  
energetica."

Rule Arg 2007 only - Dec 30 0:00 1:00 S  
Rule Arg 2008 2009 - Mar Sun>=15 0:00 0 -  
Rule Arg 2008 only - Oct Sun>=15 0:00 1:00 S

# From Mariano Absatz (2004-05-21):  
# Today it was officially published that the Province of Mendoza is changing  
# its timezone this winter... starting tomorrow night....  
# http://www.gobernac.mendoza.gov.ar/boletin/pdf/20040521-27158-normas.pdf  
# From Paul Eggert (2004-05-24):  
# It's Law No. 7,210. This change is due to a public power emergency, so for  
# now we'll assume it's for this year only.

#  
# From Paul Eggert (2006-03-22):  
# <a href="http://www.spicasc.net/horvera.html">  
# Hora de verano para la Republica Argentina (2003-06-08)  
# </a> says that standard time in Argentina from 1894-10-31  
# to 1920-05-01 was -4:16:48.25. Go with this more-precise value  
# over Shanks & Pottenger.  
#  
# From Mariano Absatz (2004-06-05):  
# These media articles from a major newspaper mostly cover the current state:  
# [http://www.lanacion.com.ar/04/05/27/de\\_604825.asp](http://www.lanacion.com.ar/04/05/27/de_604825.asp)  
#  
# [http://www.lanacion.com.ar/04/05/28/de\\_605203.asp](http://www.lanacion.com.ar/04/05/28/de_605203.asp)  
#  
# The following eight (8) provinces pulled clocks back to UTC-04:00 at  
# midnight Monday May 31st. (that is, the night between 05/31 and 06/01).  
# Apparently, all nine provinces would go back to UTC-03:00 at the same  
# time in October 17th.  
#  
# Catamarca, Chubut, La Rioja, San Juan, San Luis, Santa Cruz,  
# Tierra del Fuego, Tucuman.  
#  
# From Mariano Absatz (2004-06-14):  
# ... this weekend, the Province of Tucuman decided it'd go back to UTC-03:00  
# yesterday midnight (that is, at 24:00 Saturday 12th), since the people's  
# annoyance with the change is much higher than the power savings obtained....  
#  
# From Gwillim Law (2004-06-14):  
# [http://www.lanacion.com.ar/04/06/10/de\\_609078.asp](http://www.lanacion.com.ar/04/06/10/de_609078.asp) ...  
# "The time change in Tierra del Fuego was a conflicted decision from  
# the start. The government had decreed that the measure would take  
# effect on June 1, but a normative error forced the new time to begin  
# three days earlier,  
# from a Saturday to a Sunday....  
# Our understanding was that the change was originally scheduled to take place  
# on June 1 at 00:00 in Chubut, Santa Cruz, Tierra del Fuego (and some other  
# provinces). Sunday was May 30, only two days earlier. So the article  
# contains a contradiction. I would give more credence to the Saturday/Sunday  
# date than the "three days earlier" phrase, and conclude that Tierra del  
# Fuego set its clocks back at 2004-05-30 00:00.  
#  
# From Steffen Thorsen (2004-10-05):  
# The previous law 7210 which changed the province of Mendoza's time zone  
# back in May have been modified slightly in a new law 7277, which set the  
# new end date to 2004-09-26 (original date was 2004-10-17).  
# <http://www.gobernac.mendoza.gov.ar/boletin/pdf/20040924-27244-normas.pdf>  
#  
# From Mariano Absatz (2004-10-05):

# San Juan changed from UTC-03:00 to UTC-04:00 at midnight between  
# Sunday, May 30th and Monday, May 31st. It changed back to UTC-03:00  
# at midnight between Saturday, July  
# 24th and Sunday, July 25th....  
# <http://www.sanjuan.gov.ar/prensa/archivo/000329.html>  
# <http://www.sanjuan.gov.ar/prensa/archivo/000426.html>  
# <http://www.sanjuan.gov.ar/prensa/archivo/000441.html>

# From Alex Krivenyshev (2008-01-17):  
# Here are articles that Argentina Province San Luis is planning to end DST  
# as earlier as upcoming Monday January 21, 2008 or February 2008:  
#  
# Provincia argentina retrasa reloj y marca diferencia con resto del pais  
# (Argentine Province delayed clock and mark difference with the rest of the  
# country)  
# [http://cl.invertia.com/noticias/noticia.aspx?idNoticia=200801171849\\_EFE\\_ET4373&idtel](http://cl.invertia.com/noticias/noticia.aspx?idNoticia=200801171849_EFE_ET4373&idtel)  
# [http://cl.invertia.com/noticias/noticia.aspx?idNoticia=200801171849\\_EFE\\_ET4373&idtel](http://cl.invertia.com/noticias/noticia.aspx?idNoticia=200801171849_EFE_ET4373&idtel)  
#   
#  
# Es inminente que en San Luis atrasen una hora los relojes  
# (It is imminent in San Luis clocks one hour delay)  
# [http://www.lagaceta.com.ar/vernotae.asp?id\\_nota=253414](http://www.lagaceta.com.ar/vernotae.asp?id_nota=253414)  
# [http://www.lagaceta.com.ar/vernotae.asp?id\\_nota=253414](http://www.lagaceta.com.ar/vernotae.asp?id_nota=253414)  
#   
#  
# [http://www.worldtimezone.net/dst\\_news/dst\\_news\\_argentina02.html](http://www.worldtimezone.net/dst_news/dst_news_argentina02.html)  
# [http://www.worldtimezone.net/dst\\_news/dst\\_news\\_argentina02.html](http://www.worldtimezone.net/dst_news/dst_news_argentina02.html)  
#

# From Jesper Norgaard Welen (2008-01-18):  
# The page of the San Luis provincial government  
# <http://www.sanluis.gov.ar/notas.asp?idCanal=0&id=22812>  
# <http://www.sanluis.gov.ar/notas.asp?idCanal=0&id=22812>  
#   
# confirms what Alex Krivenyshev has earlier sent to the tz  
# emailing list about that San Luis plans to return to standard  
# time much earlier than the rest of the country. It also  
# confirms that upon request the provinces San Juan and Mendoza  
# refused to follow San Luis in this change.  
#  
# The change is supposed to take place Monday the 21.st at 0:00  
# hours. As far as I understand it if this goes ahead, we need  
# a new timezone for San Luis (although there are also documented  
# independent changes in the southamerica file of San Luis in  
# 1990 and 1991 which has not been confirmed).

# From Jesper Norgaard Welen (2008-01-25):

#

Unfortunately the below page has become defunct, about the San Luis  
# time change. Perhaps because it now is part of a group of pages "Most  
# important pages of 2008."

#

# You can use

# <a href="http://www.sanluis.gov.ar/notas.asp?idCanal=8141&id=22834">

# http://www.sanluis.gov.ar/notas.asp?idCanal=8141&id=22834

# </a>

# instead it seems. Or use "Buscador" from the main page of the San Luis  
# government, and fill in "huso" and click OK, and you will get 3 pages  
# from which the first one is identical to the above.

# From Mariano Absatz (2008-01-28):

# I can confirm that the Province of San Luis (and so far only that  
# province) decided to go back to UTC-3 effective midnight Jan 20th 2008  
# (that is, Monday 21st at 0:00 is the time the clocks were delayed back  
# 1 hour), and they intend to keep UTC-3 as their timezone all year round  
# (that is, unless they change their mind any minute now).

#

# So we'll have to add yet another city to 'southamerica' (I think San  
# Luis city is the mos

populated city in the Province, so it'd be

# America/Argentina/San\_Luis... of course I can't remember if San Luis's

# history of particular changes goes along with Mendoza or San Juan :-(

# (I only remember not being able to collect hard facts about San Luis

# back in 2004, when these provinces changed to UTC-4 for a few days, I

# mailed them personally and never got an answer).

# From Paul Eggert (2008-06-30):

# Unless otherwise specified, data are from Shanks & Pottenger through 1992,  
# from the IATA otherwise. As noted below, Shanks & Pottenger say that  
# America/Cordoba split into 6 subregions during 1991/1992, one of which  
# was America/San\_Luis, but we haven't verified this yet so for now we'll  
# keep America/Cordoba a single region rather than splitting it into the  
# other 5 subregions.

# From Mariano Absatz (2009-03-13):

# Yesterday (with our usual 2-day notice) the Province of San Luis  
# decided that next Sunday instead of "staying" @utc-03:00 they will go  
# to utc-04:00 until  
# the second Saturday in October...

#

# The press release is at

# <a href="http://www.sanluis.gov.ar/SL/Paginas/NoticiaDetalle.asp?TemaId=1&InfoPrensaId=3102">

# http://www.sanluis.gov.ar/SL/Paginas/NoticiaDetalle.asp?TemaId=1&InfoPrensaId=3102

# </a>

# (I couldn't find the decree, but

```
# <a href="http://www.sanluis.gov.ar">
# www.sanluis.gov.ar
# <a/>
# is the official page for the Province Government).
#
# There's also a note in only one of the major national papers ...
# http://www.lanacion.com.ar/nota.asp?nota_id=1107912
#
# The press release says [quick and dirty translation]:
# ... announced that next Sunday, at 00:00, Puntanos (the San Luis
# inhabitants) will have to turn back one hour their clocks
#
# Since then, San Luis will establish its own Province timezone. Thus,
# during 2009, this timezone change will run from 00:00 the third Sunday
# in March until 24:00 of the second Saturday in October.

# From Mariano Absatz (2009-10-16):
# ...the Province of San Luis is a case in
# itself.
#
# The Law at
# <a href="http://www.diputadosanluis.gov.ar/diputadosasp/paginas/verNorma.asp?NormaID=276">
# http://www.diputadosanluis.gov.ar/diputadosasp/paginas/verNorma.asp?NormaID=276
# </a>
# is ambiguous because establishes a calendar from the 2nd Sunday in
# October at 0:00 thru the 2nd Saturday in March at 24:00 and the
# complement of that starting on the 2nd Sunday of March at 0:00 and
# ending on the 2nd Saturday of March at 24:00.
#
# This clearly breaks every time the 1st of March or October is a Sunday.
#
# IMHO, the "spirit of the Law" is to make the changes at 0:00 on the 2nd
# Sunday of October and March.
#
# The problem is that the changes in the rest of the Provinces that did
# change in 2007/2008, were made according to the Federal Law and Decrees
# that did so on the 3rd Sunday of October and March.
#
# In fact, San Luis actually switched from UTC-4 to UTC-3 last Sunday
# (October 11th) at 0:00.
#
# So I guess a new set of rules, besides "Arg", must be
# made and the last
# America/Argentina/San_Luis entries should change to use these...
#
# I'm enclosing a patch that does what I say... regretfully, the San Luis
# timezone must be called "WART/WARST" even when most of the time (like,
# right now) WARST == ART... that is, since last Sunday, all the country
```

```

# is using UTC-3, but in my patch, San Luis calls it "WARST" and the rest
# of the country calls it "ART".
# ...

# From Alexander Krivenyshev (2010-04-09):
# According to news reports from El Diario de la Republica Province San
# Luis, Argentina (standard time UTC-04) will keep Daylight Saving Time
# after April 11, 2010--will continue to have same time as rest of
# Argentina (UTC-3) (no DST).
#
# Confirmaron la pr&oacute;rroga del huso horario de verano (Spanish)
# <a
href="http://www.eldiariodelarepublica.com/index.php?option=com_content&task=view&id=29383&Itemid=9">
# http://www.eldiariodelarepublica.com/index.php?option=com_content&task=view&id=29383&Itemid=9
# </a>
# or (some
English translation):
# <a href="http://www.worldtimezone.com/dst_news/dst_news_argentina08.html">
# http://www.worldtimezone.com/dst_news/dst_news_argentina08.html
# </a>

# From Mariano Absatz (2010-04-12):
# yes...I can confirm this...and given that San Luis keeps calling
# UTC-03:00 "summer time", we shouldn't just let San Luis go back to "Arg"
# rules...San Luis is still using "Western ARgentina Time" and it got
# stuck on Summer daylight savings time even though the summer is over.

# From Paul Eggert (2013-02-21):
# Milne says Cordoba time was -4:16:48.2. Round to the nearest second.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]
#
# Buenos Aires (BA), Capital Federal (CF),
Zone America/Argentina/Buenos_Aires -3:53:48 - LMT 1894 Oct 31
-4:16:48 - CMT 1920 May # Cordoba Mean Time
-4:00 - ART 1930 Dec
-4:00 Arg AR%sT 1969 Oct 5
-3:00 Arg AR%sT 1999 Oct 3
-4:00 Arg AR%sT 2000 Mar 3
-3:00 Arg AR%sT
#
# Cordoba (CB), Santa Fe (SF), Entre Rios (ER), Corrientes (CN), Misiones
(MN),
# Chaco (CC), Formosa (FM), Santiago del Estero (SE)
#
# Shanks & Pottenger also make the following claims, which we haven't verified:
# - Formosa switched to -3:00 on 1991-01-07.
# - Misiones switched to -3:00 on 1990-12-29.

```

# - Chaco switched to -3:00 on 1991-01-04.  
# - Santiago del Estero switched to -4:00 on 1991-04-01,  
# then to -3:00 on 1991-04-26.  
#  
Zone America/Argentina/Cordoba -4:16:48 - LMT 1894 Oct 31  
-4:16:48 - CMT 1920 May  
-4:00 - ART 1930 Dec  
-4:00 Arg AR%sT 1969 Oct 5  
-3:00 Arg AR%sT 1991 Mar 3  
-4:00 - WART 1991 Oct 20  
-3:00 Arg AR%sT 1999 Oct 3  
-4:00 Arg AR%sT 2000 Mar 3  
-3:00 Arg AR%sT  
#  
# Salta (SA), La Pampa (LP), Neuquen (NQ), Rio Negro (RN)  
Zone America/Argentina/Salta -4:21:40 - LMT 1894 Oct 31  
-4:16:48 - CMT 1920 May  
-4:00 - ART 1930 Dec  
-4:00 Arg AR%sT 1969 Oct 5  
-3:00 Arg AR%sT 1991 Mar 3  
-4:00 - WART 1991 Oct 20  
-3:00 Arg AR%sT 1999 Oct 3  
-4:00 Arg AR%sT 2000 Mar 3  
-3:00 Arg AR%sT 2008 Oct  
18  
-3:00 - ART  
#  
# Tucuman (TM)  
Zone America/Argentina/Tucuman -4:20:52 - LMT 1894 Oct 31  
-4:16:48 - CMT 1920 May  
-4:00 - ART 1930 Dec  
-4:00 Arg AR%sT 1969 Oct 5  
-3:00 Arg AR%sT 1991 Mar 3  
-4:00 - WART 1991 Oct 20  
-3:00 Arg AR%sT 1999 Oct 3  
-4:00 Arg AR%sT 2000 Mar 3  
-3:00 - ART 2004 Jun 1  
-4:00 - WART 2004 Jun 13  
-3:00 Arg AR%sT  
#  
# La Rioja (LR)  
Zone America/Argentina/La\_Rioja -4:27:24 - LMT 1894 Oct 31  
-4:16:48 - CMT 1920 May  
-4:00 - ART 1930 Dec  
-4:00 Arg AR%sT 1969 Oct 5  
-3:00 Arg AR%sT 1991 Mar 1  
-4:00 - WART 1991 May 7  
-3:00 Arg AR%sT 1999 Oct 3

-4:00 Arg AR%sT 2000 Mar 3  
 -3:00 - ART 2004 Jun 1  
 -4:00 - WART 2004 Jun 20  
 -3:00 Arg AR%sT 2008 Oct 18  
 -3:00 - ART  
 #  
 # San Juan (SJ)  
 Zone America/Argentina/San\_Juan -4:34:04 - LMT 1894 Oct 31  
 -4:16:48 - CMT 1920 May  
 -4:00 - ART 1930 Dec  
 -4:00 Arg AR%sT 1969 Oct 5  
 -3:00 Arg AR%sT 1991 Mar 1  
 -4:00 - WART 1991 May 7  
 -3:00 Arg AR%sT 1999 Oct 3  
 -4:00 Arg AR%sT 2000  
 Mar 3  
 -3:00 - ART 2004 May 31  
 -4:00 - WART 2004 Jul 25  
 -3:00 Arg AR%sT 2008 Oct 18  
 -3:00 - ART  
 #  
 # Jujuy (JY)  
 Zone America/Argentina/Jujuy -4:21:12 - LMT 1894 Oct 31  
 -4:16:48 - CMT 1920 May  
 -4:00 - ART 1930 Dec  
 -4:00 Arg AR%sT 1969 Oct 5  
 -3:00 Arg AR%sT 1990 Mar 4  
 -4:00 - WART 1990 Oct 28  
 -4:00 1:00 WARST 1991 Mar 17  
 -4:00 - WART 1991 Oct 6  
 -3:00 1:00 ARST 1992  
 -3:00 Arg AR%sT 1999 Oct 3  
 -4:00 Arg AR%sT 2000 Mar 3  
 -3:00 Arg AR%sT 2008 Oct 18  
 -3:00 - ART  
 #  
 # Catamarca (CT), Chubut (CH)  
 Zone America/Argentina/Catamarca -4:23:08 - LMT 1894 Oct 31  
 -4:16:48 - CMT 1920 May  
 -4:00 - ART 1930 Dec  
 -4:00 Arg AR%sT 1969 Oct 5  
 -3:00 Arg AR%sT 1991 Mar 3  
 -4:00 - WART 1991 Oct 20  
 -3:00 Arg AR%sT 1999 Oct 3  
 -4:00 Arg AR%sT 2000 Mar 3  
 -3:00 - ART 2004 Jun 1  
 -4:00 - WART 2004 Jun 20  
 -3:00 Arg AR%sT 2008 Oct 18



-3:00 - ART  
#  
# Mendoza (MZ)  
Zone America/Argentina/Mendoza -4:35:16 - LMT 1894  
Oct 31

-4:16:48 - CMT 1920 May  
-4:00 - ART 1930 Dec  
-4:00 Arg AR%sT 1969 Oct 5  
-3:00 Arg AR%sT 1990 Mar 4  
-4:00 - WART 1990 Oct 15  
-4:00 1:00 WARST 1991 Mar 1  
-4:00 - WART 1991 Oct 15  
-4:00 1:00 WARST 1992 Mar 1  
-4:00 - WART 1992 Oct 18  
-3:00 Arg AR%sT 1999 Oct 3  
-4:00 Arg AR%sT 2000 Mar 3  
-3:00 - ART 2004 May 23  
-4:00 - WART 2004 Sep 26  
-3:00 Arg AR%sT 2008 Oct 18  
-3:00 - ART

#  
# San Luis (SL)

Rule SanLuis 2008 2009 - Mar Sun>=8 0:00 0 -  
Rule SanLuis 2007 2009 - Oct Sun>=8 0:00 1:00 S

Zone America/Argentina/San\_Luis -4:25:24 - LMT 1894 Oct 31

-4:16:48 - CMT 1920 May  
-4:00 - ART 1930 Dec  
-4:00 Arg AR%sT 1969 Oct 5  
-3:00 Arg AR%sT 1990  
-3:00 1:00 ARST 1990 Mar 14  
-4:00 - WART 1990 Oct 15  
-4:00 1:00 WARST 1991 Mar 1  
-4:00 - WART 1991 Jun 1  
-3:00 - ART 1999 Oct 3  
-4:00 1:00 WARST 2000 Mar 3  
-3:00 - ART 2004 May 31  
-4:00 - WART 2004 Jul 25  
-3:00 Arg AR%sT 2008 Jan 21  
-4:00 SanLuis WAR%sT

#  
#

Santa Cruz (SC)  
Zone America/Argentina/Rio\_Gallegos -4:36:52 - LMT 1894 Oct 31

-4:16:48 - CMT 1920 May # Cordoba Mean Time  
-4:00 - ART 1930 Dec  
-4:00 Arg AR%sT 1969 Oct 5

```

-3:00 Arg AR%sT 1999 Oct 3
-4:00 Arg AR%sT 2000 Mar 3
-3:00 - ART 2004 Jun 1
-4:00 - WART 2004 Jun 20
-3:00 Arg AR%sT 2008 Oct 18
-3:00 - ART
#
# Tierra del Fuego, Antartida e Islas del Atlantico Sur (TF)
Zone America/Argentina/Ushuaia -4:33:12 - LMT 1894 Oct 31
-4:16:48 - CMT 1920 May # Cordoba Mean Time
-4:00 - ART 1930 Dec
-4:00 Arg AR%sT 1969 Oct 5
-3:00 Arg AR%sT 1999 Oct 3
-4:00 Arg AR%sT 2000 Mar 3
-3:00 - ART 2004 May 30
-4:00 - WART 2004 Jun 20
-3:00 Arg AR%sT 2008 Oct 18
-3:00 - ART

# Aruba
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Aruba -4:40:24 - LMT 1912 Feb 12 # Oranjestad
-4:30 - ANT 1965 # Netherlands Antilles Time
-4:00 - AST

# Bolivia
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/La_Paz -4:32:36 - LMT 1890
-4:32:36
- CMT 1931 Oct 15 # Calamarca MT
-4:32:36 1:00 BOST 1932 Mar 21 # Bolivia ST
-4:00 - BOT # Bolivia Time

# Brazil

# From Paul Eggert (1993-11-18):
# The mayor of Rio recently attempted to change the time zone rules
# just in his city, in order to leave more summer time for the tourist trade.
# The rule change lasted only part of the day;
# the federal government refused to follow the city's rules, and business
# was in a chaos, so the mayor backed down that afternoon.

# From IATA SSIM (1996-02):
# _Only_ the following states in BR1 observe DST: Rio Grande do Sul (RS),
# Santa Catarina (SC), Parana (PR), Sao Paulo (SP), Rio de Janeiro (RJ),
# Espirito Santo (ES), Minas Gerais (MG), Bahia (BA), Goias (GO),
# Distrito Federal (DF), Tocantins (TO), Sergipe [SE] and Alagoas [AL].
# [The last three states are new to this issue of the IATA SSIM.]

```

# From Gwillim Law (1996-10-07):  
# Geography, history (Tocantins was part of Goias until 1989), and other  
# sources of time zone information  
# lead me to believe that AL, SE, and TO were  
# always in BR1, and so the only change was whether or not they observed DST....  
# The earliest issue of the SSIM I have is 2/91. Each issue from then until  
# 9/95 says that DST is observed only in the ten states I quoted from 9/95,  
# along with Mato Grosso (MT) and Mato Grosso do Sul (MS), which are in BR2  
# (UTC-4).... The other two time zones given for Brazil are BR3, which is  
# UTC-5, no DST, and applies only in the state of Acre (AC); and BR4, which is  
# UTC-2, and applies to Fernando de Noronha (formerly FN, but I believe it's  
# become part of the state of Pernambuco). The boundary between BR1 and BR2  
# has never been clearly stated. They've simply been called East and West.  
# However, some conclusions can be drawn from another IATA manual: the Airline  
# Coding Directory, which lists close to 400 airports in Brazil. For each  
# airport it gives a time zone which is coded to the SSIM. From that  
# information, I'm led to conclude  
# that the states of Amapa (AP), Ceara (CE),  
# Maranhao (MA), Paraiba (PR), Pernambuco (PE), Piaui (PI), and Rio Grande do  
# Norte (RN), and the eastern part of Para (PA) are all in BR1 without DST.

# From Marcos Tadeu (1998-09-27):  
# <a href="http://pcdsh01.on.br/verao1.html">  
# Brazilian official page  
# </a>

# From Jesper Norgaard (2000-11-03):  
# [For an official list of which regions in Brazil use which time zones, see:]  
# <http://pcdsh01.on.br/Fusbr.htm>  
# <http://pcdsh01.on.br/Fusbrhv.htm>

# From Celso Doria via David Madeo (2002-10-09):  
# The reason for the delay this year has to do with elections in Brazil.  
#  
# Unlike in the United States, elections in Brazil are 100% computerized and  
# the results are known almost immediately. Yesterday, it was the first  
# round of the elections when 115 million Brazilians voted for President,  
# Governor, Senators, Federal Deputies, and State Deputies. Nobody is  
# counting (or re-counting) votes anymore and we know there will be a second  
#  
# round for the Presidency and also for some Governors. The 2nd round will  
# take place on October 27th.  
#  
# The reason why the DST will only begin November 3rd is that the thousands  
# of electoral machines used cannot have their time changed, and since the  
# Constitution says the elections must begin at 8:00 AM and end at 5:00 PM,  
# the Government decided to postpone DST, instead of changing the Constitution

# (maybe, for the next elections, it will be possible to change the clock)...

# From Rodrigo Severo (2004-10-04):

# It's just the biannual change made necessary by the much hyped, supposedly  
# modern Brazilian electronic voting machines which, apparently, can't deal  
# with a time change between the first and the second rounds of the elections.

# From Steffen Thorsen (2007-09-20):

# Brazil will start DST on 2007-10-14 00:00 and end on 2008-02-17 00:00:

#

<http://www.mme.gov.br/site/news/detail.do;jsessionid=BBA06811AFCAAC28F0285210913513DA?newsId=13975>

# From Paul Schulze (2008-06-24):

#

...by law number 11.662 of April 24, 2008 (published in the "Diario

# Oficial da Uniao"... ) in Brazil there are changes in the timezones,

# effective today (00:00am at June 24, 2008) as follows:

#

# a) The timezone UTC+5 is extinguished, with all the Acre state and the

# part of the Amazonas state that had this timezone now being put to the

# timezone UTC+4

# b) The whole Para state now is put at timezone UTC+3, instead of just

# part of it, as was before.

#

# This change follows a proposal of senator Tiao Viana of Acre state, that

# proposed it due to concerns about open television channels displaying

# programs inappropriate to youths in the states that had the timezone

# UTC+5 too early in the night. In the occasion, some more corrections

# were proposed, trying to unify the timezones of any given state. This

# change modifies timezone rules defined in decree 2.784 of 18 June,

# 1913.

# From Rodrigo Severo (2008-06-24):

# Just correcting the URL:

# <a href="https://www.in.gov.br/imprensa/visualiza/index.jsp?jornal=do&secao=1&pagina=1&data=25/04/2008">

#

<https://www.in.gov.br/imprensa/visualiza/index.jsp?jornal=do&secao=1&pagina=1&data=25/04/2008>

# </a>

#

# As a result of the above Decree I believe the America/Rio\_Branco

# timezone shall be modified from UTC-5 to UTC-4 and a new timezone shall

# be created to represent the...west side of the Para State. I

# suggest this new timezone be called Santarem as the most

# important/populated city in the affected area.

#

# This new timezone would be the same as the Rio\_Branco timezone up to

# the 2008/06/24 change which would be to UTC-3 instead of UTC-4.

# From Alex Krivenyshev (2008-06-24):  
# This is a quick reference page for New and Old Brazil Time Zones map.  
# <a href="http://www.worldtimezone.com/brazil-time-new-old.php">  
# http://www.worldtimezone.com/brazil-time-new-old.php  
# </a>  
#  
# - 4 time zones replaced by 3 time zones-eliminating time zone UTC- 05  
# (state Acre and the part of the Amazonas will  
# be UTC/GMT- 04) - western  
# part of Par state is moving to one timezone UTC- 03 (from UTC -04).

# From Paul Eggert (2002-10-10):  
# The official decrees referenced below are mostly taken from  
# <a href="http://pcdsh01.on.br/DecHV.html">  
# Decretos sobre o Horário de Verao no Brasil  
# </a>.

# From Steffen Thorsen (2008-08-29):  
# As announced by the government and many newspapers in Brazil late  
# yesterday, Brazil will start DST on 2008-10-19 (need to change rule) and  
# it will end on 2009-02-15 (current rule for Brazil is fine). Based on  
# past years experience with the elections, there was a good chance that  
# the start was postponed to November, but it did not happen this year.  
#  
# It has not yet been posted to <http://pcdsh01.on.br/DecHV.html>  
#  
# An official page about it:  
# <a href="http://www.mme.gov.br/site/news/detail.do?newsId=16722">  
# <http://www.mme.gov.br/site/news/detail.do?newsId=16722>  
# </a>  
# Note that this link does not always work directly, but must be accessed  
# by going  
# to  
# <a href="http://www.mme.gov.br/first">  
# <http://www.mme.gov.br/first>  
# </a>  
#  
# One example link that works directly:  
# <a href="http://jornale.com.br/index.php?option=com\_content&task=view&id=13530&Itemid=54">  
# [http://jornale.com.br/index.php?option=com\\_content&task=view&id=13530&Itemid=54](http://jornale.com.br/index.php?option=com_content&task=view&id=13530&Itemid=54)  
# (Portuguese)  
# </a>  
#  
# We have a written a short article about it as well:  
# <a href="http://www.timeanddate.com/news/time/brazil-dst-2008-2009.html">  
# <http://www.timeanddate.com/news/time/brazil-dst-2008-2009.html>  
# </a>  
#

# From Alexander Krivenyshev (2011-10-04):  
# State Bahia will return to Daylight savings time this year after 8 years off.  
# The announcement was made by Governor Jaques Wagner in an interview to a  
# television station in Salvador.

# In Portuguese:  
# <a href="http://g1.globo.com/bahia/noticia/2011/10/governador-jaques-wagner-confirma-horario-de-verao-na-bahia.html">  
# http://g1.globo.com/bahia/noticia/2011/10/governador-jaques-wagner-confirma-horario-de-verao-na-bahia.html  
#  
# </a> and  
# <a href="http://noticias.terra.com.br/brasil/noticias/0,,OI5390887-EI8139,00-Bahia+volta+a+ter+horario+de+verao+apos+oito+anos.html">  
# http://noticias.terra.com.br/brasil/noticias/0,,OI5390887-EI8139,00-Bahia+volta+a+ter+horario+de+verao+apos+oito+anos.html  
# </a>

# From Guilherme Bernardes Rodrigues (2011-10-07):  
# There is news in the media, however there is still no decree about it.  
# I just send a e-mail to Zulmira Brandao at  
# <a href="http://pcdsh01.on.br/">http://pcdsh01.on.br/</a> the  
# official agency about time in Brazil, and she confirmed that the old rule is  
# still in force.

# From Guilherme Bernardes Rodrigues (2011-10-14)  
# It's official, the President signed a decree that includes Bahia in summer  
# time.  
# [ and in a second message (same day): ]  
# I found the decree.  
#  
# DECRETO No- 7.584, DE 13 DE OUTUBRO DE 2011  
# Link :  
# <a href="http://www.in.gov.br/visualiza/index.jsp?data=13/10/2011&jornal=1000&pagina=6&totalArquivos=6">  
# http://www.in.gov.br/visualiza/index.jsp?data=13/10/2011&jornal=1000&pagina=6&totalArquivos=6  
#  
# </a>

# From Kelley Cook (2012-10-16):  
# The governor of state of Bahia in Brazil announced on Thursday that  
# due to public pressure, he is reversing the DST policy they implemented  
# last year and will not be going to Summer Time on October 21st....  
# http://www.correio24horas.com.br/r/artigo/apos-pessoes-wagner-suspende-horario-de-verao-na-bahia

# From Rodrigo Severo (2012-10-16):  
# Tocantins state will have DST.  
# http://noticias.terra.com.br/brasil/noticias/0,,OI6232536-EI306.html

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

# Decree <a href="http://pcdsh01.on.br/HV20466.htm">20,466</a> (1931-10-01)  
# Decree <a href="http://pcdsh01.on.br/HV21896.htm">21,896</a> (1932-01-10)  
Rule Brazil 1931 only - Oct 3 11:00 1:00 S  
Rule Brazil 1932 1933 - Apr 1 0:00 0 -  
Rule Brazil 1932 only - Oct 3 0:00 1:00 S  
# Decree <a href="http://pcdsh01.on.br/HV23195.htm">23,195</a> (1933-10-10)  
# revoked DST.  
# Decree  
<a href="http://pcdsh01.on.br/HV27496.htm">27,496</a> (1949-11-24)  
# Decree <a href="http://pcdsh01.on.br/HV27998.htm">27,998</a> (1950-04-13)  
Rule Brazil 1949 1952 - Dec 1 0:00 1:00 S  
Rule Brazil 1950 only - Apr 16 1:00 0 -  
Rule Brazil 1951 1952 - Apr 1 0:00 0 -  
# Decree <a href="http://pcdsh01.on.br/HV32308.htm">32,308</a> (1953-02-24)  
Rule Brazil 1953 only - Mar 1 0:00 0 -  
# Decree <a href="http://pcdsh01.on.br/HV34724.htm">34,724</a> (1953-11-30)  
# revoked DST.  
# Decree <a href="http://pcdsh01.on.br/HV52700.htm">52,700</a> (1963-10-18)  
# established DST from 1963-10-23 00:00 to 1964-02-29 00:00  
# in SP, RJ, GB, MG, ES, due to the prolongation of the drought.  
# Decree <a href="http://pcdsh01.on.br/HV53071.htm">53,071</a> (1963-12-03)  
# extended the above decree to all of the national territory on 12-09.  
Rule Brazil 1963 only - Dec 9 0:00 1:00 S  
# Decree <a href="http://pcdsh01.on.br/HV53604.htm">53,604</a> (1964-02-25)  
# extended summer time by one day to 1964-03-01 00:00  
(start of school).  
Rule Brazil 1964 only - Mar 1 0:00 0 -  
# Decree <a href="http://pcdsh01.on.br/HV55639.htm">55,639</a> (1965-01-27)  
Rule Brazil 1965 only - Jan 31 0:00 1:00 S  
Rule Brazil 1965 only - Mar 31 0:00 0 -  
# Decree <a href="http://pcdsh01.on.br/HV57303.htm">57,303</a> (1965-11-22)  
Rule Brazil 1965 only - Dec 1 0:00 1:00 S  
# Decree <a href="http://pcdsh01.on.br/HV57843.htm">57,843</a> (1966-02-18)  
Rule Brazil 1966 1968 - Mar 1 0:00 0 -  
Rule Brazil 1966 1967 - Nov 1 0:00 1:00 S  
# Decree <a href="http://pcdsh01.on.br/HV63429.htm">63,429</a> (1968-10-15)  
# revoked DST.  
# Decree <a href="http://pcdsh01.on.br/HV91698.htm">91,698</a> (1985-09-27)  
Rule Brazil 1985 only - Nov 2 0:00 1:00 S  
# Decree 92,310 (1986-01-21)  
# Decree 92,463 (1986-03-13)  
Rule Brazil 1986 only - Mar 15 0:00 0 -  
# Decree 93,316 (1986-10-01)  
Rule Brazil 1986 only - Oct 25 0:00 1:00 S  
Rule Brazil 1987 only - Feb 14 0:00 0 -  
# Decree <a href="http://pcdsh01.on.br/HV94922.htm">94,922</a> (1987-09-22)  
Rule Brazil 1987 only - Oct 25

0:00 1:00 S

Rule Brazil 1988 only - Feb 7 0:00 0 -

# Decree <a href="http://pcdsh01.on.br/HV96676.htm">96,676</a> (1988-09-12)

# except for the states of AC, AM, PA, RR, RO, and AP (then a territory)

Rule Brazil 1988 only - Oct 16 0:00 1:00 S

Rule Brazil 1989 only - Jan 29 0:00 0 -

# Decree <a href="http://pcdsh01.on.br/HV98077.htm">98,077</a> (1989-08-21)

# with the same exceptions

Rule Brazil 1989 only - Oct 15 0:00 1:00 S

Rule Brazil 1990 only - Feb 11 0:00 0 -

# Decree <a href="http://pcdsh01.on.br/HV99530.htm">99,530</a> (1990-09-17)

# adopted by RS, SC, PR, SP, RJ, ES, MG, GO, MS, DF.

# Decree 99,629 (1990-10-19) adds BA, MT.

Rule Brazil 1990 only - Oct 21 0:00 1:00 S

Rule Brazil 1991 only - Feb 17 0:00 0 -

# <a href="http://pcdsh01.on.br/HV1991.htm">Unnumbered decree</a> (1991-09-25)

# adopted by RS, SC, PR, SP, RJ, ES, MG, BA, GO, MT, MS, DF.

Rule Brazil 1991 only - Oct 20 0:00 1:00 S

Rule Brazil 1992 only - Feb 9 0:00 0 -

# <a href="http://pcdsh01.on.br/HV1992.htm">Unnumbered  
decree</a> (1992-10-16)

# adopted by same states.

Rule Brazil 1992 only - Oct 25 0:00 1:00 S

Rule Brazil 1993 only - Jan 31 0:00 0 -

# Decree <a href="http://pcdsh01.on.br/HV942.htm">942</a> (1993-09-28)

# adopted by same states, plus AM.

# Decree <a href="http://pcdsh01.on.br/HV1252.htm">1,252</a> (1994-09-22;

# web page corrected 2004-01-07) adopted by same states, minus AM.

# Decree <a href="http://pcdsh01.on.br/HV1636.htm">1,636</a> (1995-09-14)

# adopted by same states, plus MT and TO.

# Decree <a href="http://pcdsh01.on.br/HV1674.htm">1,674</a> (1995-10-13)

# adds AL, SE.

Rule Brazil 1993 1995 - Oct Sun>=11 0:00 1:00 S

Rule Brazil 1994 1995 - Feb Sun>=15 0:00 0 -

Rule Brazil 1996 only - Feb 11 0:00 0 -

# Decree <a href="http://pcdsh01.on.br/HV2000.htm">2,000</a> (1996-09-04)

# adopted by same states, minus AL, SE.

Rule Brazil 1996 only - Oct 6 0:00 1:00 S

Rule Brazil 1997 only - Feb 16 0:00 0 -

# From Daniel C. Sobral (1998-02-12):

#

In 1997, the DS began on October 6. The stated reason was that

# because international television networks ignored Brazil's policy on DS,

# they bought the wrong times on satellite for coverage of Pope's visit.

# This year, the ending date of DS was postponed to March 1

# to help dealing with the shortages of electric power.

#

# Decree 2,317 (1997-09-04), adopted by same states.



Rule Brazil 1997 only - Oct 6 0:00 1:00 S  
# Decree <a href="http://pcdsh01.on.br/figuras/HV2495.JPG">2,495</a>  
# (1998-02-10)

Rule Brazil 1998 only - Mar 1 0:00 0 -  
# Decree <a href="http://pcdsh01.on.br/figuras/Hv98.jpg">2,780</a> (1998-09-11)  
# adopted by the same states as before.

Rule Brazil 1998 only - Oct 11 0:00 1:00 S

Rule Brazil 1999 only - Feb 21 0:00 0 -  
# Decree <a href="http://pcdsh01.on.br/figuras/HV3150.gif">3,150</a>  
# (1999-08-23) adopted by same states.  
# Decree <a href="http://pcdsh01.on.br/DecHV99.gif">3,188</a> (1999-09-30)  
# adds SE, AL, PB, PE, RN, CE, PI, MA and RR.

Rule Brazil 1999 only - Oct  
3 0:00 1:00 S

Rule Brazil 2000 only - Feb 27 0:00 0 -  
# Decree <a href="http://pcdsh01.on.br/DEC3592.htm">3,592</a> (2000-09-06)  
# adopted by the same states as before.  
# Decree <a href="http://pcdsh01.on.br/Dec3630.jpg">3,630</a> (2000-10-13)  
# repeals DST in PE and RR, effective 2000-10-15 00:00.  
# Decree <a href="http://pcdsh01.on.br/Dec3632.jpg">3,632</a> (2000-10-17)  
# repeals DST in SE, AL, PB, RN, CE, PI and MA, effective 2000-10-22 00:00.  
# Decree <a href="http://pcdsh01.on.br/figuras/HV3916.gif">3,916</a>  
# (2001-09-13) reestablishes DST in AL, CE, MA, PB, PE, PI, RN, SE.

Rule Brazil 2000 2001 - Oct Sun>=8 0:00 1:00 S

Rule Brazil 2001 2006 - Feb Sun>=15 0:00 0 -  
# Decree 4,399 (2002-10-01) repeals DST in AL, CE, MA, PB, PE, PI, RN, SE.  
# <a href="http://www.presidencia.gov.br/CCIVIL/decreto/2002/D4399.htm">4,399</a>

Rule Brazil 2002 only - Nov 3 0:00 1:00 S  
# Decree 4,844 (2003-09-24; corrected 2003-09-26) repeals DST in BA, MT, TO.  
# <a href="http://www.presidencia.gov.br/CCIVIL/decreto/2003/D4844.htm">4,844</a>

Rule Brazil 2003 only - Oct 19  
0:00 1:00 S  
# Decree 5,223 (2004-10-01) reestablishes DST in MT.  
# <a href="http://www.planalto.gov.br/ccivil\_03/\_Ato2004-2006/2004/Decreto/D5223.htm">5,223</a>

Rule Brazil 2004 only - Nov 2 0:00 1:00 S  
# Decree <a href="http://pcdsh01.on.br/DecHV5539.gif">5,539</a> (2005-09-19),  
# adopted by the same states as before.

Rule Brazil 2005 only - Oct 16 0:00 1:00 S  
# Decree <a href="http://pcdsh01.on.br/DecHV5920.gif">5,920</a> (2006-10-03),  
# adopted by the same states as before.

Rule Brazil 2006 only - Nov 5 0:00 1:00 S

Rule Brazil 2007 only - Feb 25 0:00 0 -  
# Decree <a href="http://pcdsh01.on.br/DecHV6212.gif">6,212</a> (2007-09-26),  
# adopted by the same states as before.

Rule Brazil 2007 only - Oct Sun>=8 0:00 1:00 S  
# From Frederico A. C. Neves (2008-09-10):  
# According to this decree  
# <a href="http://www.planalto.gov.br/ccivil\_03/\_Ato2007-2010/2008/Decreto/D6558.htm">

# [http://www.planalto.gov.br/ccivil\\_03/\\_Ato2007-2010/2008/Decreto/D6558.htm](http://www.planalto.gov.br/ccivil_03/_Ato2007-2010/2008/Decreto/D6558.htm)

#

</a>

# [t]he DST period in Brazil now on will be from the 3rd Oct Sunday to the  
# 3rd Feb Sunday. There is an exception on the return date when this is  
# the Carnival Sunday then the return date will be the next Sunday...

Rule Brazil 2008 max - Oct Sun>=15 0:00 1:00 S

Rule Brazil 2008 2011 - Feb Sun>=15 0:00 0 -

Rule Brazil 2012 only - Feb Sun>=22 0:00 0 -

Rule Brazil 2013 2014 - Feb Sun>=15 0:00 0 -

Rule Brazil 2015 only - Feb Sun>=22 0:00 0 -

Rule Brazil 2016 2022 - Feb Sun>=15 0:00 0 -

Rule Brazil 2023 only - Feb Sun>=22 0:00 0 -

Rule Brazil 2024 2025 - Feb Sun>=15 0:00 0 -

Rule Brazil 2026 only - Feb Sun>=22 0:00 0 -

Rule Brazil 2027 2033 - Feb Sun>=15 0:00 0 -

Rule Brazil 2034 only - Feb Sun>=22 0:00 0 -

Rule Brazil 2035 2036 - Feb Sun>=15 0:00 0 -

Rule Brazil 2037 only - Feb Sun>=22 0:00 0 -

# From Arthur David Olson (2008-09-29):

# The next is wrong in some years but is better than nothing.

Rule Brazil 2038 max - Feb Sun>=15 0:00 0 -

#

The latest ruleset listed above says that the following states observe DST:

# DF, ES, GO, MG, MS, MT, PR, RJ, RS, SC, SP.

# Zone NAME GMTTOFF RULES FORMAT [UNTIL]

#

# Fernando de Noronha (administratively part of PE)

Zone America/Noronha -2:09:40 - LMT 1914

-2:00 Brazil FN%sT 1990 Sep 17

-2:00 - FNT 1999 Sep 30

-2:00 Brazil FN%sT 2000 Oct 15

-2:00 - FNT 2001 Sep 13

-2:00 Brazil FN%sT 2002 Oct 1

-2:00 - FNT

# Other Atlantic islands have no permanent settlement.

# These include Trindade and Martin Vaz (administratively part of ES),

# Atol das Rocas (RN), and Penedos de Sao Pedro e Sao Paulo (PE).

# Fernando de Noronha was a separate territory from 1942-09-02 to 1989-01-01;

# it also included the Penedos.

#

# Amapa (AP), east Para (PA)

# East Para includes Belem, Maraba, Serra Norte, and Sao Felix do Xingu.

# The division between east and west Para is the river Xingu.

# In the north a very small part from the river Javary (now Jari I guess,

#

the border with Amapa) to the Amazon, then to the Xingu.

Zone America/Belem -3:13:56 - LMT 1914

-3:00 Brazil BR%sT 1988 Sep 12

-3:00 - BRT

#

# west Para (PA)

# West Para includes Altamira, Oribidos, Prainha, Oriximina, and Santarem.

Zone America/Santarem -3:38:48 - LMT 1914

-4:00 Brazil AM%sT 1988 Sep 12

-4:00 - AMT 2008 Jun 24 00:00

-3:00 - BRT

#

# Maranhao (MA), Piaui (PI), Ceara (CE), Rio Grande do Norte (RN),

# Paraiba (PB)

Zone America/Fortaleza -2:34:00 - LMT 1914

-3:00 Brazil BR%sT 1990 Sep 17

-3:00 - BRT 1999 Sep 30

-3:00 Brazil BR%sT 2000 Oct 22

-3:00 - BRT 2001 Sep 13

-3:00 Brazil BR%sT 2002 Oct 1

-3:00 - BRT

#

# Pernambuco (PE) (except Atlantic islands)

Zone America/Recife -2:19:36 - LMT 1914

-3:00 Brazil BR%sT 1990 Sep 17

-3:00 - BRT 1999 Sep 30

-3:00 Brazil BR%sT 2000 Oct 15

-3:00 - BRT 2001 Sep 13

-3:00 Brazil BR%sT 2002 Oct 1

-3:00 - BRT

#

# Tocantins (TO)

Zone America/Araguaina -3:12:48 - LMT 1914

-3:00 Brazil BR%sT 1990

Sep 17

-3:00 - BRT 1995 Sep 14

-3:00 Brazil BR%sT 2003 Sep 24

-3:00 - BRT 2012 Oct 21

-3:00 Brazil BR%sT

#

# Alagoas (AL), Sergipe (SE)

Zone America/Maceio -2:22:52 - LMT 1914

-3:00 Brazil BR%sT 1990 Sep 17

-3:00 - BRT 1995 Oct 13

-3:00 Brazil BR%sT 1996 Sep 4

-3:00 - BRT 1999 Sep 30

-3:00 Brazil BR%sT 2000 Oct 22

-3:00 - BRT 2001 Sep 13

-3:00 Brazil BR%sT 2002 Oct 1  
-3:00 - BRT  
#  
# Bahia (BA)  
# There are too many Salvadors elsewhere, so use America/Bahia instead  
# of America/Salvador.  
Zone America/Bahia -2:34:04 - LMT 1914  
-3:00 Brazil BR%sT 2003 Sep 24  
-3:00 - BRT 2011 Oct 16  
-3:00 Brazil BR%sT 2012 Oct 21  
-3:00 - BRT  
#  
# Goias (GO), Distrito Federal (DF), Minas Gerais (MG),  
# Espirito Santo (ES), Rio de Janeiro (RJ), Sao Paulo (SP), Parana (PR),  
# Santa Catarina (SC), Rio Grande do Sul (RS)  
Zone America/Sao\_Paulo -3:06:28 - LMT 1914  
-3:00 Brazil BR%sT 1963 Oct 23 00:00  
-3:00 1:00 BRST 1964  
-3:00 Brazil BR%sT  
#  
# Mato  
Grosso do Sul (MS)  
Zone America/Campo\_Grande -3:38:28 - LMT 1914  
-4:00 Brazil AM%sT  
#  
# Mato Grosso (MT)  
Zone America/Cuiaba -3:44:20 - LMT 1914  
-4:00 Brazil AM%sT 2003 Sep 24  
-4:00 - AMT 2004 Oct 1  
-4:00 Brazil AM%sT  
#  
# Rondonia (RO)  
Zone America/Porto\_Velho -4:15:36 - LMT 1914  
-4:00 Brazil AM%sT 1988 Sep 12  
-4:00 - AMT  
#  
# Roraima (RR)  
Zone America/Boa\_Vista -4:02:40 - LMT 1914  
-4:00 Brazil AM%sT 1988 Sep 12  
-4:00 - AMT 1999 Sep 30  
-4:00 Brazil AM%sT 2000 Oct 15  
-4:00 - AMT  
#  
# east Amazonas (AM): Boca do Acre, Jutai, Manaus, Floriano Peixoto  
# The great circle line from Tabatinga to Porto Acre divides  
# east from west Amazonas.  
Zone America/Manaus -4:00:04 - LMT 1914  
-4:00 Brazil AM%sT 1988 Sep 12

-4:00 - AMT 1993 Sep 28  
-4:00 Brazil AM%sT 1994 Sep 22  
-4:00 - AMT  
#  
# west Amazonas (AM): Atalaia do Norte, Boca do Maoco, Benjamin Constant,  
# Eirunepe, Envira, Ipixuna  
Zone America/Eirunepe -4:39:28 - LMT 1914  
-5:00 Brazil AC%sT 1988 Sep  
12  
-5:00 - ACT 1993 Sep 28  
-5:00 Brazil AC%sT 1994 Sep 22  
-5:00 - ACT 2008 Jun 24 00:00  
-4:00 - AMT  
#  
# Acre (AC)  
Zone America/Rio\_Branco -4:31:12 - LMT 1914  
-5:00 Brazil AC%sT 1988 Sep 12  
-5:00 - ACT 2008 Jun 24 00:00  
-4:00 - AMT  
  
# Chile  
  
# From Eduardo Krell (1995-10-19):  
# The law says to switch to DST at midnight [24:00] on the second SATURDAY  
# of October.... The law is the same for March and October.  
# (1998-09-29):  
# Because of the drought this year, the government decided to go into  
# DST earlier (saturday 9/26 at 24:00). This is a one-time change only ...  
# (unless there's another dry season next year, I guess).  
  
# From Julio I. Pacheco Troncoso (1999-03-18):  
# Because of the same drought, the government decided to end DST later,  
# on April 3, (one-time change).  
  
# From Oscar van Vlijmen (2006-10-08):  
# <http://www.horaoficial.cl/cambio.htm>  
  
# From Jesper Norgaard Welen (2006-10-08):  
# I think that there are some obvious mistakes in the suggested link  
# from  
# Oscar van Vlijmen,... for instance entry 66 says that GMT-4  
# ended 1990-09-12 while entry 67 only begins GMT-3 at 1990-09-15  
# (they should have been 1990-09-15 and 1990-09-16 respectively), but  
# anyhow it clears up some doubts too.  
  
# From Paul Eggert (2006-12-27):  
# The following data for Chile and America/Santiago are from  
# <<http://www.horaoficial.cl/horaof.htm>> (2006-09-20), transcribed by

# Jesper Norgaard Welen. The data for Pacific/Easter are from Shanks  
# & Pottenger, except with DST transitions after 1932 cloned from  
# America/Santiago. The pre-1980 Pacific/Easter data are dubious,  
# but we have no other source.

# From German Poo-Caaman~o (2008-03-03):  
# Due to drought, Chile extends Daylight Time in three weeks. This  
# is one-time change (Saturday 3/29 at 24:00 for America/Santiago  
# and Saturday 3/29 at 22:00 for Pacific/Easter)  
# The Supreme Decree is located at  
# <a href="http://www.shoa.cl/servicios/supremo316.pdf">  
# http://www.shoa.cl/servicios/supremo316.pdf  
#  
</a>

# and the instructions for 2008 are located in:  
# <a href="http://www.horaoficial.cl/cambio.htm">  
# http://www.horaoficial.cl/cambio.htm  
# </a>.

# From Jose Miguel Garrido (2008-03-05):  
# ...  
# You could see the announces of the change on  
# <a href="http://www.shoa.cl/noticias/2008/04hora/hora.htm">  
# http://www.shoa.cl/noticias/2008/04hora/hora.htm  
# </a>.

# From Angel Chiang (2010-03-04):  
# Subject: DST in Chile exceptionally extended to 3 April due to earthquake  
# <a href="http://www.gobiernodechile.cl/viewNoticia.aspx?idArticulo=30098">  
# http://www.gobiernodechile.cl/viewNoticia.aspx?idArticulo=30098  
# </a>  
# (in Spanish, last paragraph).  
#  
# This is breaking news. There should be more information available later.

# From Arthur Daivd Olson (2010-03-06):  
# Angel Chiang's message confirmed by Julio Pacheco; Julio provided a patch.

# From Glenn Eychaner (2011-03-02): [geychaner@mac.com]  
# It appears that the Chilean government has decided to postpone the  
# change from summer  
# time to winter time again, by three weeks to April  
# 2nd:  
# <a href="http://www.emol.com/noticias/nacional/detalle/detallenoticias.asp?idnoticia=467651">  
# http://www.emol.com/noticias/nacional/detalle/detallenoticias.asp?idnoticia=467651  
# </a>  
#  
# This is not yet reflected in the official "cambio de hora" site, but

# probably will be soon:

# <a href="http://www.horaoficial.cl/cambio.htm">

# http://www.horaoficial.cl/cambio.htm

# </a>

# From Arthur David Olson (2011-03-02):

# The emol.com article mentions a water shortage as the cause of the

# postponement, which may mean that it's not a permanent change.

# From Glenn Eychaner (2011-03-28):

# The article:

# <a href="http://diario.elmercurio.com/2011/03/28/\_portada/\_portada/noticias/7565897A-CA86-49E6-9E03-660B21A4883E.htm?id=3D{7565897A-CA86-49E6-9E03-660B21A4883E}">

# http://diario.elmercurio.com/2011/03/28/\_portada/\_portada/noticias/7565897A-CA86-49E6-9E03-660B21A4883E.htm?id=3D{7565897A-CA86-49E6-9E03-660B21A4883E}

# </a>

#

#

In English:

# Chile's clocks will go back an hour this year on the 7th of May instead

# of this Saturday. They will go forward again the 3rd Saturday in

# August, not in October as they have since 1968. This is a pilot plan

# which will be reevaluated in 2012.

# From Mauricio Parada (2012-02-22), translated by Glenn Eychaner (2012-02-23):

# As stated in the website of the Chilean Energy Ministry

# http://www.minenergia.cl/ministerio/noticias/generales/gobierno-anuncia-fechas-de-cambio-de.html

# The Chilean Government has decided to postpone the entrance into winter time

# (to leave DST) from March 11 2012 to April 28th 2012. The decision has not

# been yet formalized but it will within the next days.

# Quote from the website communication:

#

# 6. For the year 2012, the dates of entry into winter time will be as follows:

# a. Saturday April 28, 2012, clocks should go back 60 minutes; that is, at

# 23:59:59, instead of passing to 0:00, the time should be adjusted to be 23:00

# of the same

day.

# b. Saturday, September 1, 2012, clocks should go forward 60 minutes; that is,

# at 23:59:59, instead of passing to 0:00, the time should be adjusted to be

# 01:00 on September 2.

# From Steffen Thorsen (2013-02-15):

# According to several news sources, Chile has extended DST this year,

# they will end DST later and start DST earlier than planned. They

# hope to save energy. The new end date is 2013-04-28 00:00 and new

# start date is 2013-09-08 00:00....

# http://www.gob.cl/informa/2013/02/15/gobierno-anuncia-fechas-de-cambio-de-hora-para-el-ano-2013.htm

# NOTE: ChileAQ rules for Antarctic bases are stored separately in the  
# 'antarctica' file.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Chile 1927 1932 - Sep 1 0:00 1:00 S

Rule Chile 1928 1932 - Apr 1 0:00 0 -

Rule Chile 1942 only - Jun 1 4:00u 0 -

Rule Chile 1942 only - Aug 1 5:00u 1:00 S

Rule Chile 1946 only - Jul 15 4:00u 1:00 S

Rule Chile 1946 only - Sep 1 3:00u 0:00 -

Rule Chile 1947 only - Apr 1 4:00u 0 -

Rule Chile 1968 only - Nov

3 4:00u 1:00 S

Rule Chile 1969 only - Mar 30 3:00u 0 -

Rule Chile 1969 only - Nov 23 4:00u 1:00 S

Rule Chile 1970 only - Mar 29 3:00u 0 -

Rule Chile 1971 only - Mar 14 3:00u 0 -

Rule Chile 1970 1972 - Oct Sun>=9 4:00u 1:00 S

Rule Chile 1972 1986 - Mar Sun>=9 3:00u 0 -

Rule Chile 1973 only - Sep 30 4:00u 1:00 S

Rule Chile 1974 1987 - Oct Sun>=9 4:00u 1:00 S

Rule Chile 1987 only - Apr 12 3:00u 0 -

Rule Chile 1988 1989 - Mar Sun>=9 3:00u 0 -

Rule Chile 1988 only - Oct Sun>=1 4:00u 1:00 S

Rule Chile 1989 only - Oct Sun>=9 4:00u 1:00 S

Rule Chile 1990 only - Mar 18 3:00u 0 -

Rule Chile 1990 only - Sep 16 4:00u 1:00 S

Rule Chile 1991 1996 - Mar Sun>=9 3:00u 0 -

Rule Chile 1991 1997 - Oct Sun>=9 4:00u 1:00 S

Rule Chile 1997 only - Mar 30 3:00u 0 -

Rule Chile 1998 only - Mar Sun>=9 3:00u 0 -

Rule Chile 1998 only - Sep 27 4:00u 1:00 S

Rule Chile 1999 only - Apr 4 3:00u 0 -

Rule Chile 1999 2010 - Oct Sun>=9 4:00u 1:00 S

Rule Chile 2000 2007 - Mar Sun>=9 3:00u 0 -

#

N.B.: the end of March 29 in Chile is March 30 in Universal time,

# which is used below in specifying the transition.

Rule Chile 2008 only - Mar 30 3:00u 0 -

Rule Chile 2009 only - Mar Sun>=9 3:00u 0 -

Rule Chile 2010 only - Apr Sun>=1 3:00u 0 -

Rule Chile 2011 only - May Sun>=2 3:00u 0 -

Rule Chile 2011 only - Aug Sun>=16 4:00u 1:00 S

Rule Chile 2012 max - Apr Sun>=23 3:00u 0 -

Rule Chile 2012 max - Sep Sun>=2 4:00u 1:00 S

# IATA SSIM anomalies: (1992-02) says 1992-03-14;

# (1996-09) says 1998-03-08. Ignore these.

# Zone NAME GMTTOFF RULES FORMAT [UNTIL]



Zone America/Santiago -4:42:46 - LMT 1890  
-4:42:46 - SMT 1910 # Santiago Mean Time  
-5:00 - CLT 1916 Jul 1 # Chile Time  
-4:42:46 - SMT 1918 Sep 1 # Santiago Mean Time  
-4:00 - CLT 1919 Jul 1 # Chile Time  
-4:42:46 - SMT 1927 Sep 1 # Santiago Mean Time  
-5:00 Chile CL%ST 1947 May 22 # Chile Time  
-4:00 Chile CL%ST

Zone Pacific/Easter -7:17:44 - LMT 1890  
-7:17:28 - EMT 1932 Sep # Easter Mean Time  
-7:00 Chile EAS%ST 1982  
Mar 13 21:00 # Easter I Time  
-6:00 Chile EAS%ST

#

# Sala y Gomez Island is like Pacific/Easter.

# Other Chilean locations, including Juan Fernandez Is, San Ambrosio,

# San Felix, and Antarctic bases, are like America/Santiago.

# Colombia

# Milne gives 4:56:16.4 for Bogota time in 1899; round to nearest. He writes,  
# "A variation of fifteen minutes in the public clocks of Bogota is not rare."

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule CO 1992 only - May 3 0:00 1:00 S

Rule CO 1993 only - Apr 4 0:00 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Bogota -4:56:16 - LMT 1884 Mar 13

-4:56:16 - BMT 1914 Nov 23 # Bogota Mean Time

-5:00 CO CO%ST # Colombia Time

# Malpelo, Providencia, San Andres

# no information; probably like America/Bogota

# Curacao

# Milne gives 4:35:46.9 for Curacao mean time; round to nearest.

#

# From Paul Eggert (2006-03-22):

# Shanks & Pottenger say that The Bottom and Philipsburg have been at

# -4:00 since standard

time was introduced on 1912-03-02; and that

# Kralendijk and Rincon used Kralendijk Mean Time (-4:33:08) from

# 1912-02-02 to 1965-01-01. The former is dubious, since S&P also say

# Saba Island has been like Curacao.

# This all predates our 1970 cutoff, though.

#

# By July 2007 Curacao and St Maarten are planned to become

# associated states within the Netherlands, much like Aruba;

# Bonaire, Saba and St Eustatius would become directly part of the  
# Netherlands as Kingdom Islands. This won't affect their time zones  
# though, as far as we know.

#

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Curacao -4:35:47 - LMT 1912 Feb 12 # Willemstad

-4:30 - ANT 1965 # Netherlands Antilles Time

-4:00 - AST

# From Arthur David Olson (2011-06-15):

# At least for now, use links for places with new iso3166 codes.

# The name "Lower Prince's Quarter" is both longer than fourteen characters

# and contains an apostrophe; use "Lower\_Princes" below.

Link America/Curacao America/Lower\_Princes

# Sint Maarten

Link America/Curacao America/Kralendijk # Bonaire, Sint Eustatius and Saba

# Ecuador

#

# Milne says the Sentral and South American Telegraph Company used -5:24:15.

#

# From Paul Eggert (2007-03-04):

# Apparently Ecuador had a failed experiment with DST in 1992.

# <<http://midena.gov.ec/content/view/1261/208/>> (2007-02-27) and

# <[http://www.hoy.com.ec/NoticiaNue.asp?row\\_id=249856](http://www.hoy.com.ec/NoticiaNue.asp?row_id=249856)> (2006-11-06) both

# talk about "hora Sixto". Leave this alone for now, as we have no data.

#

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Guayaquil -5:19:20 - LMT 1890

-5:14:00 - QMT 1931 # Quito Mean Time

-5:00 - ECT # Ecuador Time

Zone Pacific/Galapagos -5:58:24 - LMT 1931 # Puerto Baquerizo Moreno

-5:00 - ECT 1986

-6:00 - GALT # Galapagos Time

# Falklands

# From Paul Eggert (2006-03-22):

# Between 1990 and 2000 inclusive, Shanks & Pottenger and the IATA agree except

# the IATA gives 1996-09-08. Go with Shanks & Pottenger.

# From Falkland Islands Government

Office, London (2001-01-22)

# via Jesper Norgaard:

# ... the clocks revert back to Local Mean Time at 2 am on Sunday 15

# April 2001 and advance one hour to summer time at 2 am on Sunday 2

# September. It is anticipated that the clocks will revert back at 2

# am on Sunday 21 April 2002 and advance to summer time at 2 am on  
# Sunday 1 September.

# From Rives McDow (2001-02-13):

#

# I have communicated several times with people there, and the last  
# time I had communications that was helpful was in 1998. Here is  
# what was said then:

#

# "The general rule was that Stanley used daylight saving and the Camp  
# did not. However for various reasons many people in the Camp have  
# started to use daylight saving (known locally as 'Stanley Time')

# There is no rule as to who uses daylight saving - it is a matter of  
# personal choice and so it is impossible to draw a map showing who  
# uses it and who does not. Any list would be out of date as soon as  
# it was produced. This year daylight  
saving ended on April 18/19th

# and started again on September 12/13th. I do not know what the rule  
# is, but can find out if you like. We do not change at the same time  
# as UK or Chile."

#

# I did have in my notes that the rule was "Second Saturday in Sep at  
# 0:00 until third Saturday in Apr at 0:00". I think that this does  
# not agree in some cases with Shanks; is this true?

#

# Also, there is no mention in the list that some areas in the  
# Falklands do not use DST. I have found in my communications there  
# that these areas are on the western half of East Falkland and all of  
# West Falkland. Stanley is the only place that consistently observes  
# DST. Again, as in other places in the world, the farmers don't like  
# it. West Falkland is almost entirely sheep farmers.

#

# I know one lady there that keeps a list of which farm keeps DST and  
# which doesn't each year. She runs a shop in Stanley, and says that  
# the list changes each year. She uses it to communicate to her  
# customers,

catching them when they are home for lunch or dinner.

# From Paul Eggert (2001-03-05):

# For now, we'll just record the time in Stanley, since we have no  
# better info.

# From Steffen Thorsen (2011-04-01):

# The Falkland Islands will not turn back clocks this winter, but stay on  
# daylight saving time.

#

# One source:

# <a href="http://www.falklandnews.com/public/story.cfm?get=5914&source=3">

```

# http://www.falklandnews.com/public/story.cfm?get=5914&source=3
# </a>
#
# We have gotten this confirmed by a clerk of the legislative assembly:
# Normally the clocks revert to Local Mean Time (UTC/GMT -4 hours) on the
# third Sunday of April at 0200hrs and advance to Summer Time (UTC/GMT -3
# hours) on the first Sunday of September at 0200hrs.
#
# IMPORTANT NOTE: During 2011, on a trial basis, the Falkland Islands
# will not revert to local mean time, but clocks will remain on Summer
# time (UTC/GMT - 3 hours) throughout the whole of 2011. Any long term
# change to local time following
# the trial period will be notified.
#
# From Andrew Newman (2012-02-24)
# A letter from Justin McPhee, Chief Executive,
# Cable & Wireless Falkland Islands (dated 2012-02-22)
# states...
# The current Atlantic/Stanley entry under South America expects the
# clocks to go back to standard Falklands Time (FKT) on the 15th April.
# The database entry states that in 2011 Stanley was staying on fixed
# summer time on a trial basis only. FIG need to contact IANA and/or
# the maintainers of the database to inform them we're adopting
# the same policy this year and suggest recommendations for future years.
#
# For now we will assume permanent summer time for the Falklands
# until advised differently (to apply for 2012 and beyond, after the 2011
# experiment was apparently successful.)
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Falk 1937 1938 - Sep lastSun 0:00 1:00 S
Rule Falk 1938 1942 - Mar Sun>=19 0:00 0 -
Rule Falk 1939 only - Oct 1 0:00 1:00 S
Rule Falk 1940 1942 - Sep lastSun 0:00 1:00 S
Rule Falk 1943 only - Jan 1 0:00 0 -
Rule Falk 1983 only - Sep lastSun 0:00 1:00 S
Rule Falk 1984 1985 - Apr lastSun 0:00 0 -
Rule Falk 1984 only - Sep 16 0:00 1:00 S
Rule Falk 1985 2000 - Sep Sun>=9 0:00 1:00 S
Rule Falk 1986 2000 - Apr Sun>=16 0:00 0 -
Rule Falk 2001 2010 - Apr Sun>=15 2:00 0 -
Rule Falk 2001 2010 - Sep Sun>=1 2:00 1:00 S
#
Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Atlantic/Stanley -3:51:24 - LMT 1890
-3:51:24 - SMT 1912 Mar 12 # Stanley Mean Time
-4:00 Falk FK%sT 1983 May # Falkland Is Time
-3:00 Falk FK%sT 1985 Sep 15
-4:00 Falk FK%sT 2010 Sep 5 02:00

```

-3:00 - FKST

# French Guiana

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Cayenne -3:29:20 - LMT 1911 Jul

-4:00 - GFT 1967 Oct # French Guiana Time

-3:00 - GFT

# Guyana

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Guyana -3:52:40 - LMT 1915 Mar # Georgetown

-3:45 - GBGT 1966 May 26 # Br Guiana Time

-3:45 - GYT 1975 Jul 31 # Guyana Time

-3:00 - GYT 1991

#

IATA SSIM (1996-06) says -4:00. Assume a 1991 switch.

-4:00 - GYT

# Paraguay

# From Paul Eggert (2006-03-22):

# Shanks & Pottenger say that spring transitions are from 01:00 -> 02:00,

# and autumn transitions are from 00:00 -> 23:00. Go with pre-1999

# editions of Shanks, and with the IATA, who say transitions occur at 00:00.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Para 1975 1988 - Oct 1 0:00 1:00 S

Rule Para 1975 1978 - Mar 1 0:00 0 -

Rule Para 1979 1991 - Apr 1 0:00 0 -

Rule Para 1989 only - Oct 22 0:00 1:00 S

Rule Para 1990 only - Oct 1 0:00 1:00 S

Rule Para 1991 only - Oct 6 0:00 1:00 S

Rule Para 1992 only - Mar 1 0:00 0 -

Rule Para 1992 only - Oct 5 0:00 1:00 S

Rule Para 1993 only - Mar 31 0:00 0 -

Rule Para 1993 1995 - Oct 1 0:00 1:00 S

Rule Para 1994 1995 - Feb lastSun 0:00 0 -

Rule Para 1996 only - Mar 1 0:00 0 -

# IATA SSIM (2000-02) says 1999-10-10; ignore this for now.

# From Steffen Thorsen (2000-10-02):

# I have three independent

reports that Paraguay changed to DST this Sunday

# (10-01).

#

# Translated by Gwillim Law (2001-02-27) from

# <a href="http://www.diarionoticias.com.py/011000/nacional/nacional1.htm">

# Noticias, a daily paper in Asuncion, Paraguay (2000-10-01)

# </a>:

# Starting at 0:00 today, the clock will be set forward 60 minutes, in

# fulfillment of Decree No. 7,273 of the Executive Power.... The time change

# system has been operating for several years. Formerly there was a separate  
# decree each year; the new law has the same effect, but permanently. Every  
# year, the time will change on the first Sunday of October; likewise, the  
# clock will be set back on the first Sunday of March.  
#  
Rule Para 1996 2001 - Oct Sun>=1 0:00 1:00 S  
# IATA SSIM (1997-09) says Mar 1; go with Shanks & Pottenger.  
Rule Para 1997 only - Feb lastSun 0:00 0 -  
# Shanks & Pottenger say 1999-02-28; IATA SSIM (1999-02) says 1999-02-27, but  
# (1999-09) reports no date; go with above sources and Gerd Knops (2001-02-27).  
Rule Para 1998 2001 - Mar Sun>=1 0:00 0 -  
#  
From Rives McDow (2002-02-28):  
# A decree was issued in Paraguay (no. 16350) on 2002-02-26 that changed the  
# dst method to be from the first Sunday in September to the first Sunday in  
# April.  
Rule Para 2002 2004 - Apr Sun>=1 0:00 0 -  
Rule Para 2002 2003 - Sep Sun>=1 0:00 1:00 S  
#  
# From Jesper Norgaard Welen (2005-01-02):  
# There are several sources that claim that Paraguay made  
# a timezone rule change in autumn 2004.  
# From Steffen Thorsen (2005-01-05):  
# Decree 1,867 (2004-03-05)  
# From Carlos Raul Perasso via Jesper Norgaard Welen (2006-10-13)  
# <<http://www.presidencia.gov.py/decretos/D1867.pdf>>  
Rule Para 2004 2009 - Oct Sun>=15 0:00 1:00 S  
Rule Para 2005 2009 - Mar Sun>=8 0:00 0 -  
# From Carlos Raul Perasso (2010-02-18):  
# By decree number 3958 issued yesterday (  
# <a href="http://www.presidencia.gov.py/v1/wp-content/uploads/2010/02/decreto3958.pdf">  
# <http://www.presidencia.gov.py/v1/wp-content/uploads/2010/02/decreto3958.pdf>  
# </a>  
# )  
#  
Paraguay changes its DST schedule, postponing the March rule to April and  
# modifying the October date. The decree reads:  
# ...  
# Art. 1. It is hereby established that from the second Sunday of the month of  
# April of this year (2010), the official time is to be set back 60 minutes,  
# and that on the first Sunday of the month of October, it is to be set  
# forward 60 minutes, in all the territory of the Paraguayan Republic.  
# ...  
Rule Para 2010 max - Oct Sun>=1 0:00 1:00 S  
Rule Para 2010 2012 - Apr Sun>=8 0:00 0 -  
#  
# From Steffen Thorsen (2013-03-07):  
# Paraguay will end DST on 2013-03-24 00:00....

# http://www.ande.gov.py/interna.php?id=1075  
#  
# From Carlos Raul Perasso (2013-03-15):  
# The change in Paraguay is now final. Decree number 10780  
# http://www.presidencia.gov.py/uploads/pdf/presidencia-3b86ff4b691c79d4f5927ca964922ec74772ce857c02ca054a52a37b49afc7fb.pdf  
Rule Para 2013 max - Mar Sun>=22 0:00 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone America/Asuncion -3:50:40 - LMT 1890  
-3:50:40  
- AMT 1931 Oct 10 # Asuncion Mean Time  
-4:00 - PYT 1972 Oct # Paraguay Time  
-3:00 - PYT 1974 Apr  
-4:00 Para PY%ST

# Peru  
#  
# <a href="news:xrGmb.39935\$gA1.13896113@news4.srv.hcvlly.cv.net">  
# From Evelyn C. Leeper via Mark Brader (2003-10-26):</a>  
# When we were in Peru in 1985-1986, they apparently switched over  
# sometime between December 29 and January 3 while we were on the Amazon.  
#  
# From Paul Eggert (2006-03-22):  
# Shanks & Pottenger don't have this transition. Assume 1986 was like 1987.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Peru 1938 only - Jan 1 0:00 1:00 S  
Rule Peru 1938 only - Apr 1 0:00 0 -  
Rule Peru 1938 1939 - Sep lastSun 0:00 1:00 S  
Rule Peru 1939 1940 - Mar Sun>=24 0:00 0 -  
Rule Peru 1986 1987 - Jan 1 0:00 1:00 S  
Rule Peru 1986 1987 - Apr 1 0:00 0 -  
Rule Peru 1990 only - Jan 1 0:00 1:00 S  
Rule Peru 1990 only - Apr 1 0:00 0 -  
# IATA is ambiguous for 1993/1995; go with Shanks & Pottenger.  
Rule Peru 1994 only - Jan 1 0:00 1:00 S  
Rule Peru 1994 only - Apr  
1 0:00 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone America/Lima -5:08:12 - LMT 1890  
-5:08:36 - LMT 1908 Jul 28 # Lima Mean Time?  
-5:00 Peru PE%ST # Peru Time

# South Georgia  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Atlantic/South\_Georgia -2:26:08 - LMT 1890 # Grytviken  
-2:00 - GST # South Georgia Time

```

# South Sandwich Is
# uninhabited; scientific personnel have wintered

# Suriname
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Paramaribo -3:40:40 - LMT 1911
-3:40:52 - PMT 1935 # Paramaribo Mean Time
-3:40:36 - PMT 1945 Oct # The capital moved?
-3:30 - NEGT 1975 Nov 20 # Dutch Guiana Time
-3:30 - SRT 1984 Oct # Suriname Time
-3:00 - SRT

# Trinidad and Tobago
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Port_of_Spain -4:06:04 - LMT 1912 Mar 2
-4:00 - AST

# Uruguay
# From Paul Eggert (1993-11-18):
# Uruguay wins the prize for the strangest peacetime manipulation of the rules.
# From Shanks
& Pottenger:
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
# Whitman gives 1923 Oct 1; go with Shanks & Pottenger.
Rule Uruguay 1923 only - Oct 2 0:00 0:30 HS
Rule Uruguay 1924 1926 - Apr 1 0:00 0 -
Rule Uruguay 1924 1925 - Oct 1 0:00 0:30 HS
Rule Uruguay 1933 1935 - Oct lastSun 0:00 0:30 HS
# Shanks & Pottenger give 1935 Apr 1 0:00 & 1936 Mar 30 0:00; go with Whitman.
Rule Uruguay 1934 1936 - Mar Sat>=25 23:30s 0 -
Rule Uruguay 1936 only - Nov 1 0:00 0:30 HS
Rule Uruguay 1937 1941 - Mar lastSun 0:00 0 -
# Whitman gives 1937 Oct 3; go with Shanks & Pottenger.
Rule Uruguay 1937 1940 - Oct lastSun 0:00 0:30 HS
# Whitman gives 1941 Oct 24 - 1942 Mar 27, 1942 Dec 14 - 1943 Apr 13,
# and 1943 Apr 13 ``to present time"; go with Shanks & Pottenger.
Rule Uruguay 1941 only - Aug 1 0:00 0:30 HS
Rule Uruguay 1942 only - Jan 1 0:00 0 -
Rule Uruguay 1942 only - Dec 14 0:00 1:00 S
Rule Uruguay 1943 only - Mar 14 0:00 0 -
Rule Uruguay 1959 only - May 24 0:00 1:00 S
Rule Uruguay 1959 only - Nov 15
0:00 0 -
Rule Uruguay 1960 only - Jan 17 0:00 1:00 S
Rule Uruguay 1960 only - Mar 6 0:00 0 -
Rule Uruguay 1965 1967 - Apr Sun>=1 0:00 1:00 S
Rule Uruguay 1965 only - Sep 26 0:00 0 -

```



Rule Uruguay 1966 1967 - Oct 31 0:00 0 -  
 Rule Uruguay 1968 1970 - May 27 0:00 0:30 HS  
 Rule Uruguay 1968 1970 - Dec 2 0:00 0 -  
 Rule Uruguay 1972 only - Apr 24 0:00 1:00 S  
 Rule Uruguay 1972 only - Aug 15 0:00 0 -  
 Rule Uruguay 1974 only - Mar 10 0:00 0:30 HS  
 Rule Uruguay 1974 only - Dec 22 0:00 1:00 S  
 Rule Uruguay 1976 only - Oct 1 0:00 0 -  
 Rule Uruguay 1977 only - Dec 4 0:00 1:00 S  
 Rule Uruguay 1978 only - Apr 1 0:00 0 -  
 Rule Uruguay 1979 only - Oct 1 0:00 1:00 S  
 Rule Uruguay 1980 only - May 1 0:00 0 -  
 Rule Uruguay 1987 only - Dec 14 0:00 1:00 S  
 Rule Uruguay 1988 only - Mar 14 0:00 0 -  
 Rule Uruguay 1988 only - Dec 11 0:00 1:00 S  
 Rule Uruguay 1989 only - Mar 12 0:00 0 -  
 Rule Uruguay 1989 only - Oct 29 0:00 1:00 S  
 # Shanks & Pottenger say no DST was observed in 1990/1  
 and 1991/2,  
 # and that 1992/3's DST was from 10-25 to 03-01. Go with IATA.  
 Rule Uruguay 1990 1992 - Mar Sun>=1 0:00 0 -  
 Rule Uruguay 1990 1991 - Oct Sun>=21 0:00 1:00 S  
 Rule Uruguay 1992 only - Oct 18 0:00 1:00 S  
 Rule Uruguay 1993 only - Feb 28 0:00 0 -  
 # From Eduardo Cota (2004-09-20):  
 # The uruguayan government has decreed a change in the local time....  
 # <http://www.presidencia.gub.uy/decretos/2004091502.htm>  
 Rule Uruguay 2004 only - Sep 19 0:00 1:00 S  
 # From Steffen Thorsen (2005-03-11):  
 # Uruguay's DST was scheduled to end on Sunday, 2005-03-13, but in order to  
 # save energy ... it was postponed two weeks....  
 # [http://www.presidencia.gub.uy/\\_Web/noticias/2005/03/2005031005.htm](http://www.presidencia.gub.uy/_Web/noticias/2005/03/2005031005.htm)  
 Rule Uruguay 2005 only - Mar 27 2:00 0 -  
 # From Eduardo Cota (2005-09-27):  
 # [http://www.presidencia.gub.uy/\\_Web/decretos/2005/09/CM%20119\\_09%2009%202005\\_00001.PDF](http://www.presidencia.gub.uy/_Web/decretos/2005/09/CM%20119_09%2009%202005_00001.PDF)  
 # This means that from 2005-10-09 at 02:00 local time, until 2006-03-12 at  
 # 02:00 local time, official time in Uruguay will be at GMT -2.  
 Rule Uruguay 2005 only - Oct  
 9 2:00 1:00 S  
 Rule Uruguay 2006 only - Mar 12 2:00 0 -  
 # From Jesper Norgaard Welen (2006-09-06):  
 # [http://www.presidencia.gub.uy/\\_web/decretos/2006/09/CM%20210\\_08%2006%202006\\_00001.PDF](http://www.presidencia.gub.uy/_web/decretos/2006/09/CM%20210_08%2006%202006_00001.PDF)  
 Rule Uruguay 2006 max - Oct Sun>=1 2:00 1:00 S  
 Rule Uruguay 2007 max - Mar Sun>=8 2:00 0 -  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone America/Montevideo -3:44:44 - LMT 1898 Jun 28  
 -3:44:44 - MMT 1920 May 1 # Montevideo MT  
 -3:30 Uruguay UY%sT 1942 Dec 14 # Uruguay Time

-3:00 Uruguay UY%ST

# Venezuela

#

# From John Stainforth (2007-11-28):

# ... the change for Venezuela originally expected for 2007-12-31 has  
# been brought forward to 2007-12-09. The official announcement was  
# published today in the "Gaceta Oficial de la Republica Bolivariana  
# de Venezuela, numero 38.819" (official document for all laws or  
# resolution publication)  
# <http://www.globovision.com/news.php?nid=72208>

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Caracas -4:27:44 - LMT 1890

-4:27:40

- CMT 1912 Feb 12 # Caracas Mean Time?

-4:30 - VET 1965 # Venezuela Time

-4:00 - VET 2007 Dec 9 03:00

-4:30 - VET

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/southamerica

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\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/sun/util/calendar/AbstractCalendar.java

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# <pre>

# This file is in the public domain, so clarified as of

# 2009-05-17 by Arthur David Olson.

# These entries are mostly present for historical reasons, so that

# people in areas not otherwise covered by the tz files could "zic -l"

# to a time zone that was right for their area. These days, the

# tz files cover almost all the inhabited world, and the only practical

# need now for the entries that are not on UTC are for ships at sea

# that cannot use POSIX TZ settings.

Zone Etc/GMT 0 - GMT

Zone Etc/UTC 0 - UTC

Zone Etc/UCT 0 - UCT

# The following link uses older naming conventions,

# but it belongs here, not in the file `backward',

# as functions like gmtime load the "GMT" file to handle leap seconds properly.

# We want this to work even on installations that omit the other older names.

Link Etc/GMT GMT

Link Etc/UTC Etc/Universal

Link Etc/UTC Etc/Zulu

Link Etc/GMT Etc/Greenwich

Link Etc/GMT Etc/GMT-0

Link Etc/GMT Etc/GMT+0

Link Etc/GMT Etc/GMT0

#

We use POSIX-style signs in the Zone names and the output abbreviations,

# even though this is the opposite of what many people expect.

# POSIX has positive signs west of Greenwich, but many people expect

# positive signs east of Greenwich. For example, TZ='Etc/GMT+4' uses

# the abbreviation "GMT+4" and corresponds to 4 hours behind UTC

# (i.e. west of Greenwich) even though many people would expect it to

# mean 4 hours ahead of UTC (i.e. east of Greenwich).

#

```
# In the draft 5 of POSIX 1003.1-200x, the angle bracket notation allows for
# TZ='<GMT-4>+4'; if you want time zone abbreviations conforming to
# ISO 8601 you can use TZ='<-0400>+4'. Thus the commonly-expected
# offset is kept within the angle bracket (and is used for display)
# while the POSIX sign is kept outside the angle bracket (and is used
# for calculation).
```

```
#
```

```
# Do not use a TZ setting like TZ='GMT+4', which is four hours behind
# GMT but uses the completely
# misleading abbreviation "GMT".
```

```
# Earlier incarnations of this package were not POSIX-compliant,
# and had lines such as
# Zone GMT-12 -12 - GMT-1200
# We did not want things to change quietly if someone accustomed to the old
# way does a
# zic -l GMT-12
# so we moved the names into the Etc subdirectory.
```

```
Zone Etc/GMT-14 14 - GMT-14 # 14 hours ahead of GMT
```

```
Zone Etc/GMT-13 13 - GMT-13
```

```
Zone Etc/GMT-12 12 - GMT-12
```

```
Zone Etc/GMT-11 11 - GMT-11
```

```
Zone Etc/GMT-10 10 - GMT-10
```

```
Zone Etc/GMT-9 9 - GMT-9
```

```
Zone Etc/GMT-8 8 - GMT-8
```

```
Zone Etc/GMT-7 7 - GMT-7
```

```
Zone Etc/GMT-6 6 - GMT-6
```

```
Zone Etc/GMT-5 5 - GMT-5
```

```
Zone Etc/GMT-4 4 - GMT-4
```

```
Zone Etc/GMT-3 3 - GMT-3
```

```
Zone Etc/GMT-2 2 - GMT-2
```

```
Zone Etc/GMT-1 1 - GMT-1
```

```
Zone Etc/GMT+1 -1 - GMT+1
```

```
Zone Etc/GMT+2 -2 - GMT+2
```

```
Zone Etc/GMT+3 -3 - GMT+3
```

```
Zone Etc/GMT+4 -4 - GMT+4
```

```
Zone Etc/GMT+5 -5 - GMT+5
```

```
Zone Etc/GMT+6 -6 - GMT+6
```

```
Zone Etc/GMT+7 -7 - GMT+7
```

```
Zone Etc/GMT+8 -8 - GMT+8
```

```
Zone Etc/GMT+9 -9 - GMT+9
```

```
Zone Etc/GMT+10 -10 - GMT+10
```

```
Zone Etc/GMT+11 -11 - GMT+11
```

```
Zone Etc/GMT+12 -12 - GMT+12
```

```
Found
```

in path(s):  
\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/etcetera  
No license file was found, but licenses were detected in source scan.

# <pre>  
# This file is in the public domain, so clarified as of  
# 2009-05-17 by Arthur David Olson.

# also includes Central America and the Caribbean

# This data is by no means authoritative; if you think you know better,  
# go ahead and edit the file (and please send any changes to  
# tz@iana.org for general use in the future).

# From Paul Eggert (1999-03-22):  
# A reliable and entertaining source about time zones is  
# Derek Howse, Greenwich time and longitude, Philip Wilson Publishers (1997).

#####

# United States

# From Paul Eggert (1999-03-31):  
# Howse writes (pp 121-125) that time zones were invented by  
# Professor Charles Ferdinand Dowd (1825-1904),  
# Principal of Temple Grove Ladies' Seminary (Saratoga Springs, NY).  
# His pamphlet ``A System of National Time for Railroads" (1870)  
# was the result of his proposals at the Convention of  
# Railroad Trunk Lines  
# in New York City (1869-10). His 1870 proposal was based on Washington, DC,  
# but in 1872-05 he moved the proposed origin to Greenwich.  
# His proposal was adopted by the railroads on 1883-11-18 at 12:00,  
# and the most of the country soon followed suit.

# From Paul Eggert (2005-04-16):  
# That 1883 transition occurred at 12:00 new time, not at 12:00 old time.  
# See p 46 of David Prerau, Seize the daylight, Thunder's Mouth Press (2005).

# From Paul Eggert (2006-03-22):  
# A good source for time zone historical data in the US is  
# Thomas G. Shanks, The American Atlas (5th edition),  
# San Diego: ACS Publications, Inc. (1991).  
# Make sure you have the errata sheet; the book is somewhat useless without it.  
# It is the source for most of the pre-1991 US entries below.

# From Paul Eggert (2001-03-06):  
# Daylight Saving Time was first suggested as a joke by Benjamin Franklin

# in his whimsical essay ``An Economical Project for Diminishing the Cost  
# of Light" published  
# in the Journal de Paris (1784-04-26).  
# Not everyone is happy with the results:  
#  
# I don't really care how time is reckoned so long as there is some  
# agreement about it, but I object to being told that I am saving  
# daylight when my reason tells me that I am doing nothing of the kind.  
# I even object to the implication that I am wasting something  
# valuable if I stay in bed after the sun has risen. As an admirer  
# of moonlight I resent the bossy insistence of those who want to  
# reduce my time for enjoying it. At the back of the Daylight Saving  
# scheme I detect the bony, blue-fingered hand of Puritanism, eager  
# to push people into bed earlier, and get them up earlier, to make  
# them healthy, wealthy and wise in spite of themselves.  
#  
# -- Robertson Davies, The diary of Samuel Marchbanks,  
# Clarke, Irwin (1947), XIX, Sunday  
#  
# For more about the first ten years of DST in the United States, see  
# Robert Garland's <http://www.clpgh.org/exhibit/dst.html>  
# Ten years of  
# daylight saving from the Pittsburgh standpoint  
# (Carnegie Library of Pittsburgh, 1927)</a>.  
#  
# Shanks says that DST was called "War Time" in the US in 1918 and 1919.  
# However, DST was imposed by the Standard Time Act of 1918, which  
# was the first nationwide legal time standard, and apparently  
# time was just called "Standard Time" or "Daylight Saving Time".  
  
# From Arthur David Olson:  
# US Daylight Saving Time ended on the last Sunday of \*October\* in 1974.  
# See, for example, the front page of the Saturday, 1974-10-26  
# and Sunday, 1974-10-27 editions of the Washington Post.  
  
# From Arthur David Olson:  
# Before the Uniform Time Act of 1966 took effect in 1967, observance of  
# Daylight Saving Time in the US was by local option, except during wartime.  
  
# From Arthur David Olson (2000-09-25):  
# Last night I heard part of a rebroadcast of a 1945 Arch Oboler radio drama.  
# In the introduction, Oboler spoke of "Eastern Peace Time."  
# An AltaVista search turned up  
# <http://rowayton.org/rhs/hstaug45.html>:  
#  
# "When the time is announced over the radio now, it is 'Eastern Peace  
# Time' instead of the old familiar 'Eastern War Time.' Peace is wonderful."  
# </a> (August 1945) by way of confirmation.

# From Joseph Gallant citing  
# George H. Douglas, \_The Early Days of Radio Broadcasting\_ (1987):  
# At 7 P.M. (Eastern War Time) [on 1945-08-14], the networks were set  
# to switch to London for Attlee's address, but the American people  
# never got to hear his speech live. According to one press account,  
# CBS' Bob Trout was first to announce the word of Japan's surrender,  
# but a few seconds later, NBC, ABC and Mutual also flashed the word  
# of surrender, all of whom interrupting the bells of Big Ben in  
# London which were to precede Mr. Attlee's speech.

# From Paul Eggert (2003-02-09): It was Robert St John, not Bob Trout. From  
# Myrna Oliver's obituary of St John on page B16 of today's Los Angeles Times:

#

# ... a war-weary U.S. clung to radios, awaiting word of  
Japan's surrender.

# Any announcement from Asia would reach St. John's New York newsroom on a  
# wire service teletype machine, which had prescribed signals for major news.

# Associated Press, for example, would ring five bells before spewing out  
# typed copy of an important story, and 10 bells for news "of transcendental  
# importance."

#

# On Aug. 14, stalling while talking steadily into the NBC networks' open  
# microphone, St. John heard five bells and waited only to hear a sixth bell,  
# before announcing confidently: "Ladies and gentlemen, World War II is over.  
# The Japanese have agreed to our surrender terms."

#

# He had scored a 20-second scoop on other broadcasters.

# From Arthur David Olson (2005-08-22):

# Paul has been careful to use the "US" rules only in those locations  
# that are part of the United States; this reflects the real scope of  
# U.S. government action. So even though the "US" rules have changed  
# in the latest release, other countries won't be affected.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule US 1918 1919 - Mar lastSun 2:00 1:00 D

Rule US 1918 1919 - Oct lastSun 2:00 0 S

Rule US 1942 only - Feb 9 2:00 1:00 W

# War

Rule US 1945 only - Aug 14 23:00u 1:00 P # Peace

Rule US 1945 only - Sep 30 2:00 0 S

Rule US 1967 2006 - Oct lastSun 2:00 0 S

Rule US 1967 1973 - Apr lastSun 2:00 1:00 D

Rule US 1974 only - Jan 6 2:00 1:00 D

Rule US 1975 only - Feb 23 2:00 1:00 D

Rule US 1976 1986 - Apr lastSun 2:00 1:00 D

Rule US 1987 2006 - Apr Sun>=1 2:00 1:00 D

Rule US 2007 max - Mar Sun>=8 2:00 1:00 D

Rule US 2007 max - Nov Sun>=1 2:00 0 S

# From Arthur David Olson, 2005-12-19

# We generate the files specified below to guard against old files with

# obsolete information being left in the time zone binary directory.

# We limit the list to names that have appeared in previous versions of

# this time zone package.

# We do these as separate Zones rather than as Links to avoid problems if

# a particular place changes whether it observes DST.

# We put

these specifications here in the northamerica file both to

# increase the chances that they'll actually get compiled and to

# avoid the need to duplicate the US rules in another file.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone EST -5:00 - EST

Zone MST -7:00 - MST

Zone HST -10:00 - HST

Zone EST5EDT -5:00 US E%sT

Zone CST6CDT -6:00 US C%sT

Zone MST7MDT -7:00 US M%sT

Zone PST8PDT -8:00 US P%sT

# From Bob Devine (1988-01-28):

# ...Alaska (and Hawaii) had the timezone names changed in 1967.

# old new

# Pacific Standard Time(PST) -same-

# Yukon Standard Time(YST) -same-

# Central Alaska S.T. (CAT) Alaska-Hawaii St[an]dard Time (AHST)

# Nome Standard Time (NT) Bering Standard Time (BST)

#

# ...Alaska's timezone lines were redrawn in 1983 to give only 2 tz.

# The YST zone now covers nearly all of the state, AHST just part

# of the Aleutian islands. No DST.

# From Paul Eggert (1995-12-19):

# The tables below use `NST`, not `NT`, for Nome Standard  
Time.

# I invented `CAWT` for Central Alaska War Time.

# From U. S. Naval Observatory (1989-01-19):

# USA EASTERN 5 H BEHIND UTC NEW YORK, WASHINGTON

# USA EASTERN 4 H BEHIND UTC APR 3 - OCT 30

# USA CENTRAL 6 H BEHIND UTC CHICAGO, HOUSTON

# USA CENTRAL 5 H BEHIND UTC APR 3 - OCT 30

# USA MOUNTAIN 7 H BEHIND UTC DENVER

# USA MOUNTAIN 6 H BEHIND UTC APR 3 - OCT 30



```
# USA PACIFIC    8 H BEHIND UTC    L.A., SAN FRANCISCO
# USA PACIFIC    7 H BEHIND UTC    APR 3 - OCT 30
# USA ALASKA STD  9 H BEHIND UTC    MOST OF ALASKA    (AKST)
# USA ALASKA STD  8 H BEHIND UTC    APR 3 - OCT 30 (AKDT)
# USA ALEUTIAN   10 H BEHIND UTC    ISLANDS WEST OF 170W
# USA - " -      9 H BEHIND UTC    APR 3 - OCT 30
# USA HAWAII     10 H BEHIND UTC
# USA BERING     11 H BEHIND UTC    SAMOA, MIDWAY
```

```
# From Arthur David Olson (1989-01-21):
# The above dates are for 1988.
# Note the "AKST" and "AKDT" abbreviations,
# the claim that there's
# no DST in Samoa, and the claim that there is DST in Alaska and the
# Aleutians.
```

```
# From Arthur David Olson (1988-02-13):
# Legal standard time zone names, from United States Code (1982 Edition and
# Supplement III), Title 15, Chapter 6, Section 260 and forward. First, names
# up to 1967-04-01 (when most provisions of the Uniform Time Act of 1966
# took effect), as explained in sections 263 and 261:
# (none)
# United States standard eastern time
# United States standard mountain time
# United States standard central time
# United States standard Pacific time
# (none)
# United States standard Alaska time
# (none)
# Next, names from 1967-04-01 until 1983-11-30 (the date for
# public law 98-181):
# Atlantic standard time
# eastern standard time
# central standard time
# mountain standard time
# Pacific standard time
# Yukon standard time
# Alaska-Hawaii standard time
# Bering standard time
# And after 1983-11-30:
# Atlantic standard time
# eastern standard time
# central
# standard time
# mountain standard time
# Pacific standard time
# Alaska standard time
# Hawaii-Aleutian standard time
```

# Samoa standard time  
# The law doesn't give abbreviations.  
#  
# From Paul Eggert (2000-01-08), following a heads-up from Rives McDow:  
# Public law 106-564 (2000-12-23) introduced the abbreviation  
# "Chamorro Standard Time" for time in Guam and the Northern Marianas.  
# See the file "australasia".

# From Arthur David Olson, 2005-08-09  
# The following was signed into law on 2005-08-08.  
#  
# H.R. 6, Energy Policy Act of 2005, SEC. 110. DAYLIGHT SAVINGS.  
# (a) Amendment- Section 3(a) of the Uniform Time Act of 1966 (15  
# U.S.C. 260a(a)) is amended--  
# (1) by striking `first Sunday of April' and inserting `second  
# Sunday of March'; and  
# (2) by striking `last Sunday of October' and inserting `first  
# Sunday of November'.  
# (b) Effective Date- Subsection (a) shall take effect 1 year after the  
# date of enactment of this Act or March 1, 2007,  
# whichever is later.  
# (c) Report to Congress- Not later than 9 months after the effective  
# date stated in subsection (b), the Secretary shall report to Congress  
# on the impact of this section on energy consumption in the United  
# States.  
# (d) Right to Revert- Congress retains the right to revert the  
# Daylight Saving Time back to the 2005 time schedules once the  
# Department study is complete.

# US eastern time, represented by New York

# Connecticut, Delaware, District of Columbia, most of Florida,  
# Georgia, southeast Indiana (Dearborn and Ohio counties), eastern Kentucky  
# (except America/Kentucky/Louisville below), Maine, Maryland, Massachusetts,  
# New Hampshire, New Jersey, New York, North Carolina, Ohio,  
# Pennsylvania, Rhode Island, South Carolina, eastern Tennessee,  
# Vermont, Virginia, West Virginia

# From Dave Cantor (2004-11-02):  
# Early this summer I had the occasion to visit the Mount Washington  
# Observatory weather station atop (of course!) Mount Washington  
# [NH]....  
# One of the staff members said that the station was on Eastern Standard Time  
# and didn't change their clocks for Daylight Saving ... so that their  
# reports will always have times which are 5 hours behind UTC.

# From Paul Eggert (2005-08-26):  
# According to today's Huntsville Times

# <<http://www.al.com/news/huntsvilletimes/index.ssf?/base/news/1125047783228320.xml&coll=1>>  
# a few towns on Alabama's "eastern border with Georgia, such as Phenix City  
# in Russell County, Lanett in Chambers County and some towns in Lee County,  
# set their watches and clocks on Eastern time." It quotes H.H. "Bubba"  
# Roberts, city administrator in Phenix City. as saying "We are in the Central  
# time zone, but we do go by the Eastern time zone because so many people work  
# in Columbus."

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER

Rule NYC 1920 only - Mar lastSun 2:00 1:00 D

Rule NYC 1920 only - Oct lastSun 2:00 0 S

Rule NYC 1921 1966 - Apr lastSun 2:00 1:00 D

Rule NYC 1921 1954 - Sep lastSun 2:00 0 S

Rule NYC 1955 1966 - Oct lastSun 2:00 0 S

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/New\_York -4:56:02 - LMT 1883 Nov 18 12:03:58

-5:00 US E%sT 1920

-5:00 NYC E%sT 1942

-5:00 US E%sT 1946

-5:00 NYC E%sT 1967

-5:00 US E%sT

# US central time, represented by Chicago

# Alabama, Arkansas, Florida panhandle (Bay, Calhoun, Escambia,  
# Gulf, Holmes, Jackson, Okaloosa, Santa Rosa, Walton, and  
# Washington counties), Illinois, western Indiana  
# (Gibson, Jasper, Lake, LaPorte, Newton, Porter, Posey, Spencer,  
# Vanderburgh, and Warrick counties), Iowa, most of Kansas, western  
# Kentucky, Louisiana, Minnesota, Mississippi, Missouri, eastern  
# Nebraska, eastern North Dakota, Oklahoma, eastern South Dakota,  
# western Tennessee, most of Texas, Wisconsin

# From Larry M. Smith (2006-04-26) re Wisconsin:

# <http://www.legis.state.wi.us/statutes/Stat0175.pdf> ...

# is currently enforced at the 01:00 time of change. Because the local

# "bar time" in the state

corresponds to 02:00, a number of citations

# are issued for the "sale of class 'B' alcohol after prohibited

# hours" within the deviated hour of this change every year....

#

# From Douglas R. Bomberg (2007-03-12):

# Wisconsin has enacted (nearly eleventh-hour) legislation to get WI

# Statue 175 closer in synch with the US Congress' intent....

# <http://www.legis.state.wi.us/2007/data/acts/07Act3.pdf>

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER

Rule Chicago 1920 only - Jun 13 2:00 1:00 D  
 Rule Chicago 1920 1921 - Oct lastSun 2:00 0 S  
 Rule Chicago 1921 only - Mar lastSun 2:00 1:00 D  
 Rule Chicago 1922 1966 - Apr lastSun 2:00 1:00 D  
 Rule Chicago 1922 1954 - Sep lastSun 2:00 0 S  
 Rule Chicago 1955 1966 - Oct lastSun 2:00 0 S  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone America/Chicago -5:50:36 - LMT 1883 Nov 18 12:09:24  
 -6:00 US C%sT 1920  
 -6:00 Chicago C%sT 1936 Mar 1 2:00  
 -5:00 - EST 1936 Nov 15 2:00  
 -6:00 Chicago C%sT 1942  
 -6:00 US C%sT 1946  
 -6:00 Chicago C%sT 1967  
 -6:00 US C%sT  
 #  
 Oliver County, ND switched from mountain to central time on 1992-10-25.  
 Zone America/North\_Dakota/Center -6:45:12 - LMT 1883 Nov 18 12:14:48  
 -7:00 US M%sT 1992 Oct 25 02:00  
 -6:00 US C%sT  
 # Morton County, ND, switched from mountain to central time on  
 # 2003-10-26, except for the area around Mandan which was already central time.  
 # See <<http://dmses.dot.gov/docimages/p63/135818.pdf>>.  
 # Officially this switch also included part of Sioux County, and  
 # Jones, Mellette, and Todd Counties in South Dakota;  
 # but in practice these other counties were already observing central time.  
 # See <<http://www.epa.gov/fedrgstr/EPA-IMPACT/2003/October/Day-28/i27056.htm>>.  
 Zone America/North\_Dakota/New\_Salem -6:45:39 - LMT 1883 Nov 18 12:14:21  
 -7:00 US M%sT 2003 Oct 26 02:00  
 -6:00 US C%sT  
  
 # From Josh Findley (2011-01-21):  
 # ...it appears that Mercer County, North Dakota, changed from the  
 # mountain time zone to the central time zone at the last transition from  
 # daylight-saving  
 # to standard time (on Nov. 7, 2010):  
 # <a href="http://www.gpo.gov/fdsys/pkg/FR-2010-09-29/html/2010-24376.htm">  
 # http://www.gpo.gov/fdsys/pkg/FR-2010-09-29/html/2010-24376.htm  
 # </a>  
 # <a href="http://www.bismarcktribune.com/news/local/article\_1eb1b588-c758-11df-b472-001cc4c03286.html">  
 # http://www.bismarcktribune.com/news/local/article\_1eb1b588-c758-11df-b472-001cc4c03286.html  
 # </a>  
  
 # From Andy Lipscomb (2011-01-24):  
 # ...according to the Census Bureau, the largest city is Beulah (although  
 # it's commonly referred to as Beulah-Hazen, with Hazen being the next  
 # largest city in Mercer County). Google Maps places Beulah's city hall  
 # at 4715'51" north, 10146'40" west, which yields an offset of 6h47'07".

Zone America/North\_Dakota/Beulah -6:47:07 - LMT 1883 Nov 18 12:12:53

-7:00 US M%sT 2010 Nov 7 2:00

-6:00 US C%sT

# US mountain time, represented by Denver

#

# Colorado, far western Kansas, Montana, western

# Nebraska, Nevada border (Jackpot, Owyhee, and Mountain City),

# New

Mexico, southwestern North Dakota,

# western South Dakota, far western Texas (El Paso County, Hudspeth County,

# and Pine Springs and Nickel Creek in Culberson County), Utah, Wyoming

#

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER

Rule Denver 1920 1921 - Mar lastSun 2:00 1:00 D

Rule Denver 1920 only - Oct lastSun 2:00 0 S

Rule Denver 1921 only - May 22 2:00 0 S

Rule Denver 1965 1966 - Apr lastSun 2:00 1:00 D

Rule Denver 1965 1966 - Oct lastSun 2:00 0 S

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Denver -6:59:56 - LMT 1883 Nov 18 12:00:04

-7:00 US M%sT 1920

-7:00 Denver M%sT 1942

-7:00 US M%sT 1946

-7:00 Denver M%sT 1967

-7:00 US M%sT

# US Pacific time, represented by Los Angeles

#

# California, northern Idaho (Benewah, Bonner, Boundary, Clearwater,

# Idaho, Kootenai, Latah, Lewis, Nez Perce, and Shoshone counties,

# and the northern three-quarters of Idaho county),

# most of Nevada, most of Oregon, and Washington

#

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER

Rule CA 1948 only - Mar 14 2:00 1:00 D

Rule CA 1949 only - Jan

1 2:00 0 S

Rule CA 1950 1966 - Apr lastSun 2:00 1:00 D

Rule CA 1950 1961 - Sep lastSun 2:00 0 S

Rule CA 1962 1966 - Oct lastSun 2:00 0 S

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Los\_Angeles -7:52:58 - LMT 1883 Nov 18 12:07:02

-8:00 US P%sT 1946

-8:00 CA P%sT 1967

-8:00 US P%sT

# Alaska  
# AK%ST is the modern abbreviation for -9:00 per USNO.  
#  
# From Paul Eggert (2001-05-30):  
# Howse writes that Alaska switched from the Julian to the Gregorian calendar,  
# and from east-of-GMT to west-of-GMT days, when the US bought it from Russia.  
# This was on 1867-10-18, a Friday; the previous day was 1867-10-06 Julian,  
# also a Friday. Include only the time zone part of this transition,  
# ignoring the switch from Julian to Gregorian, since we can't represent  
# the Julian calendar.  
#  
# As far as we know, none of the exact locations mentioned below were  
# permanently inhabited in 1867 by anyone using either calendar.  
#  
# (Yakutat was colonized by the Russians in 1799, but the settlement  
# was destroyed in 1805 by a Yakutat-kon war party.) However, there  
# were nearby inhabitants in some cases and for our purposes perhaps  
# it's best to simply use the official transition.  
#  
# From Steve Ferguson (2011-01-31):  
# The author lives in Alaska and many of the references listed are only  
# available to Alaskan residents.  
#  
# <a  
# href="http://www.alaskahistorical society.org/index.cfm?section=discover%20alaska&page=Glimpses%20of%20the%20Past&viewpost=2&ContentId=98">  
#  
# http://www.alaskahistorical society.org/index.cfm?section=discover%20alaska&page=Glimpses%20of%20the%20Past&viewpost=2&ContentId=98  
# </a>  
#  
# From Arthur David Olson (2011-02-01):  
# Here's database-relevant material from the 2001 "Alaska History" article:  
#  
# On September 20 [1979]...DOT...officials decreed that on April 27,  
# 1980, Juneau and other nearby communities would move to Yukon Time.  
# Sitka, Petersburg, Wrangell, and Ketchikan, however,  
# would remain on  
# Pacific Time.  
#  
# ...on September 22, 1980, DOT Secretary Neil E. Goldschmidt rescinded the  
# Department's September 1979 decision. Juneau and other communities in  
# northern Southeast reverted to Pacific Time on October 26.  
#  
# On October 28 [1983]...the Metlakatla Indian Community Council voted  
# unanimously to keep the reservation on Pacific Time.  
#

# According to DOT official Joanne Petrie, Indian reservations are not  
# bound to follow time zones imposed by neighboring jurisdictions.  
#  
# (The last is consistent with how the database now handles the Navajo  
# Nation.)

# From Arthur David Olson (2011-02-09):  
# I just spoke by phone with a staff member at the Metlakatla Indian  
# Community office (using contact information available at  
# <a href="http://www.commerce.state.ak.us/dca/commdb/CIS.cfm?Comm\_Boro\_name=Metlakatla">  
# http://www.commerce.state.ak.us/dca/commdb/CIS.cfm?Comm\_Boro\_name=Metlakatla  
# </a>).  
# It's shortly after 1:00 here on the east coast of  
# the United States;  
# the staffer said it was shortly after 10:00 there. When I asked whether  
# that meant they were on Pacific time, they said no--they were on their  
# own time. I asked about daylight saving; they said it wasn't used. I  
# did not inquire about practices in the past.

# From Arthur David Olson (2011-08-17):  
# For lack of better information, assume that Metlakatla's  
# abandonment of use of daylight saving resulted from the 1983 vote.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Juneau 15:02:19 - LMT 1867 Oct 18

-8:57:41 - LMT 1900 Aug 20 12:00

-8:00 - PST 1942

-8:00 US P%ST 1946

-8:00 - PST 1969

-8:00 US P%ST 1980 Apr 27 2:00

-9:00 US Y%ST 1980 Oct 26 2:00

-8:00 US P%ST 1983 Oct 30 2:00

-9:00 US Y%ST 1983 Nov 30

-9:00 US AK%ST

Zone America/Sitka 14:58:47 - LMT 1867 Oct 18

-9:01:13 - LMT 1900 Aug 20 12:00

-8:00 - PST 1942

-8:00 US P%ST 1946

-8:00 - PST 1969

-8:00 US P%ST 1983 Oct 30 2:00

-9:00 US Y%ST 1983

Nov 30

-9:00 US AK%ST

Zone America/Metlakatla 15:13:42 - LMT 1867 Oct 18

-8:46:18 - LMT 1900 Aug 20 12:00

-8:00 - PST 1942

-8:00 US P%ST 1946

-8:00 - PST 1969

-8:00 US P%ST 1983 Oct 30 2:00  
-8:00 - MeST  
Zone America/Yakutat 14:41:05 - LMT 1867 Oct 18  
-9:18:55 - LMT 1900 Aug 20 12:00  
-9:00 - YST 1942  
-9:00 US Y%ST 1946  
-9:00 - YST 1969  
-9:00 US Y%ST 1983 Nov 30  
-9:00 US AK%ST  
Zone America/Anchorage 14:00:24 - LMT 1867 Oct 18  
-9:59:36 - LMT 1900 Aug 20 12:00  
-10:00 - CAT 1942  
-10:00 US CAT/CAWT 1945 Aug 14 23:00u  
-10:00 US CAT/CAPT 1946 # Peace  
-10:00 - CAT 1967 Apr  
-10:00 - AHST 1969  
-10:00 US AH%ST 1983 Oct 30 2:00  
-9:00 US Y%ST 1983 Nov 30  
-9:00 US AK%ST  
Zone America/Nome 12:58:21 - LMT 1867 Oct 18  
-11:01:38 - LMT 1900 Aug 20 12:00  
-11:00 - NST 1942  
-11:00 US N%ST 1946  
-11:00 - NST 1967 Apr  
-11:00 - BST 1969  
-11:00 US B%ST 1983 Oct 30 2:00  
-9:00 US Y%ST 1983 Nov 30  
-9:00 US AK%ST  
Zone  
America/Adak 12:13:21 - LMT 1867 Oct 18  
-11:46:38 - LMT 1900 Aug 20 12:00  
-11:00 - NST 1942  
-11:00 US N%ST 1946  
-11:00 - NST 1967 Apr  
-11:00 - BST 1969  
-11:00 US B%ST 1983 Oct 30 2:00  
-10:00 US AH%ST 1983 Nov 30  
-10:00 US HA%ST  
# The following switches don't quite make our 1970 cutoff.  
#  
# Shanks writes that part of southwest Alaska (e.g. Aniak)  
# switched from -11:00 to -10:00 on 1968-09-22 at 02:00,  
# and another part (e.g. Akiak) made the same switch five weeks later.  
#  
# From David Flater (2004-11-09):  
# In e-mail, 2004-11-02, Ray Hudson, historian/liaison to the Unalaska  
# Historic Preservation Commission, provided this information, which  
# suggests that Unalaska deviated from statutory time from early 1967



# possibly until 1983:  
#  
# Minutes of the Unalaska City Council Meeting, January 10, 1967:  
# "Except for St. Paul and Akutan, Unalaska is the only important  
# location not on Alaska Standard Time. The following resolution was  
# made  
# by William Robinson and seconded by Henry Swanson: Be it  
# resolved that the City of Unalaska hereby goes to Alaska Standard  
# Time as of midnight Friday, January 13, 1967 (1 A.M. Saturday,  
# January 14, Alaska Standard Time.) This resolution was passed with  
# three votes for and one against."

# Hawaii

# From Arthur David Olson (2010-12-09):  
# "Hawaiian Time" by Robert C. Schmitt and Doak C. Cox appears on pages 207-225  
# of volume 26 of The Hawaiian Journal of History (1992). As of 2010-12-09,  
# the article is available at  
# <http://evols.library.manoa.hawaii.edu/bitstream/10524/239/2/JL26215.pdf>  
# <http://evols.library.manoa.hawaii.edu/bitstream/10524/239/2/JL26215.pdf>  
# </a>  
# and indicates that standard time was adopted effective noon, January  
# 13, 1896 (page 218), that in "1933, the Legislature decreed daylight  
# saving for the period between the last Sunday of each April and the  
# last Sunday of each September, but less than a month later repealed the  
# act,"  
# (page 220), that year-round daylight saving time was in effect  
# from 1942-02-09 to 1945-09-30 (page 221, with no time of day given for  
# when clocks changed) and that clocks were changed by 30 minutes  
# effective the second Sunday of June, 1947 (page 219, with no time of  
# day given for when clocks changed). A footnote for the 1933 changes  
# cites Session Laws of Hawaii 1933, "Act. 90 (approved 26 Apr. 1933)  
# and Act 163 (approved 21 May 1933)."

# From Arthur David Olson (2011-01-19):  
# The following is from "Laws of the Territory of Hawaii Passed by the  
# Seventeenth Legislature: Regular Session 1933," available (as of  
# 2011-01-19) at American University's Pence Law Library. Page 85: "Act  
# 90...At 2 o'clock ante meridian of the last Sunday in April of each  
# year, the standard time of this Territory shall be advanced one  
# hour...This Act shall take effect upon its approval. Approved this 26th  
# day of April, A. D. 1933. LAWRENCE M JUDD, Governor of the Territory of  
# Hawaii." Page  
# 172: "Act 163...Act 90 of the Session Laws of 1933 is  
# hereby repealed...This Act shall take effect upon its approval, upon  
# which date the standard time of this Territory shall be restored to  
# that existing immediately prior to the taking effect of said Act 90.  
# Approved this 21st day of May, A. D. 1933. LAWRENCE M. JUDD, Governor

# of the Territory of Hawaii."  
#  
# Note that 1933-05-21 was a Sunday.  
# We're left to guess the time of day when Act 163 was approved; guess noon.

Zone Pacific/Honolulu -10:31:26 - LMT 1896 Jan 13 12:00 #Schmitt&Cox  
-10:30 - HST 1933 Apr 30 2:00 #Laws 1933  
-10:30 1:00 HDT 1933 May 21 12:00 #Laws 1933+12  
-10:30 - HST 1942 Feb 09 2:00 #Schmitt&Cox+2  
-10:30 1:00 HDT 1945 Sep 30 2:00 #Schmitt&Cox+2  
-10:30 - HST 1947 Jun 8 2:00 #Schmitt&Cox+2  
-10:00 - HST

# Now we turn to US areas that have diverged from the consensus since 1970.

# Arizona mostly uses MST.

# From Paul Eggert (2002-10-20):

#

# The information in the rest of this paragraph  
is derived from the

# <http://www.dlapr.lib.az.us/links/daylight.htm>

# Daylight Saving Time web page (2002-01-23) maintained by the

# Arizona State Library, Archives and Public Records.

# Between 1944-01-01 and 1944-04-01 the State of Arizona used standard  
# time, but by federal law railroads, airlines, bus lines, military

# personnel, and some engaged in interstate commerce continued to

# observe war (i.e., daylight saving) time. The 1944-03-17 Phoenix

# Gazette says that was the date the law changed, and that 04-01 was

# the date the state's clocks would change. In 1945 the State of

# Arizona used standard time all year, again with exceptions only as

# mandated by federal law. Arizona observed DST in 1967, but Arizona

# Laws 1968, ch. 183 (effective 1968-03-21) repealed DST.

#

# Shanks says the 1944 experiment came to an end on 1944-03-17.

# Go with the Arizona State Library instead.

Zone America/Phoenix -7:28:18 - LMT 1883 Nov 18 11:31:42

-7:00 US M%ST 1944

Jan 1 00:01

-7:00 - MST 1944 Apr 1 00:01

-7:00 US M%ST 1944 Oct 1 00:01

-7:00 - MST 1967

-7:00 US M%ST 1968 Mar 21

-7:00 - MST

# From Arthur David Olson (1988-02-13):

# A writer from the Inter Tribal Council of Arizona, Inc.,

# notes in private correspondence dated 1987-12-28 that "Presently, only the

# Navajo Nation participates in the Daylight Saving Time policy, due to its  
# large size and location in three states." (The "only" means that other  
# tribal nations don't use DST.)

Link America/Denver America/Shiprock

# Southern Idaho (Ada, Adams, Bannock, Bear Lake, Bingham, Blaine,  
# Boise, Bonneville, Butte, Camas, Canyon, Caribou, Cassia, Clark,  
# Custer, Elmore, Franklin, Fremont, Gem, Gooding, Jefferson, Jerome,  
# Lemhi, Lincoln, Madison, Minidoka, Oneida, Owyhee, Payette, Power,  
# Teton, Twin Falls, Valley, Washington counties, and the southern  
# quarter of Idaho county) and eastern Oregon (most of Malheur County)  
# switched four weeks late in 1974.

#

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone

America/Boise -7:44:49 - LMT 1883 Nov 18 12:15:11

-8:00 US P%sT 1923 May 13 2:00

-7:00 US M%sT 1974

-7:00 - MST 1974 Feb 3 2:00

-7:00 US M%sT

# Indiana

#

# For a map of Indiana's time zone regions, see:

# <a href="http://www.mccsc.edu/time.html">

# What time is it in Indiana?

# </a> (2006-03-01)

#

# From Paul Eggert (2007-08-17):

# Since 1970, most of Indiana has been like America/Indiana/Indianapolis,

# with the following exceptions:

#

# - Gibson, Jasper, Lake, LaPorte, Newton, Porter, Posey, Spencer,

# Vanderburgh, and Warrick counties have been like America/Chicago.

#

# - Dearborn and Ohio counties have been like America/New\_York.

#

# - Clark, Floyd, and Harrison counties have been like

# America/Kentucky/Louisville.

#

# - Crawford, Daviess, Dubois, Knox, Martin, Perry, Pike, Pulaski, Starke,

# and Switzerland counties have their own time zone histories as noted below.

#

# Shanks partitioned Indiana into 345 regions, each with  
its own time history,

# and wrote ``Even newspaper reports present contradictory information."''

# Those Hoosiers! Such a flighty and changeable people!

```

# Fortunately, most of the complexity occurred before our cutoff date of 1970.
#
# Other than Indianapolis, the Indiana place names are so nondescript
# that they would be ambiguous if we left them at the `America' level.
# So we reluctantly put them all in a subdirectory `America/Indiana'.

# From Paul Eggert (2005-08-16):
# http://www.mccsc.edu/time.html says that Indiana will use DST starting 2006.

# From Nathan Stratton Treadway (2006-03-30):
# http://www.dot.gov/affairs/dot0406.htm [3705 B]
# From Deborah Goldsmith (2006-01-18):
# http://dmses.dot.gov/docimages/pdf95/382329\_web.pdf [2.9 MB]
# From Paul Eggert (2006-01-20):
# It says "DOT is relocating the time zone boundary in Indiana to move Starke,
# Pulaski, Knox, Daviess, Martin, Pike, Dubois, and Perry Counties from the
# Eastern Time Zone to the Central Time Zone.... The
# effective date of
# this rule is 2:00 a.m. EST Sunday, April 2, 2006, which is the
# changeover date from standard time to Daylight Saving Time."
# Strictly speaking, this means the affected counties will change their
# clocks twice that night, but this obviously is in error. The intent
# is that 01:59:59 EST be followed by 02:00:00 CDT.

# From Gwillim Law (2007-02-10):
# The Associated Press has been reporting that Pulaski County, Indiana is
# going to switch from Central to Eastern Time on March 11, 2007....
# http://www.indystar.com/apps/pbcs.dll/article?AID=/20070207/LOCAL190108/702070524/0/LOCAL

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER
Rule Indianapolis 1941 only - Jun 22 2:00 1:00 D
Rule Indianapolis 1941 1954 - Sep lastSun 2:00 0 S
Rule Indianapolis 1946 1954 - Apr lastSun 2:00 1:00 D
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Indiana/Indianapolis -5:44:38 - LMT 1883 Nov 18 12:15:22
-6:00 US C%sT 1920
-6:00 Indianapolis C%sT 1942
-6:00 US C%sT 1946
-6:00
Indianapolis C%sT 1955 Apr 24 2:00
-5:00 - EST 1957 Sep 29 2:00
-6:00 - CST 1958 Apr 27 2:00
-5:00 - EST 1969
-5:00 US E%sT 1971
-5:00 - EST 2006
-5:00 US E%sT

#
# Eastern Crawford County, Indiana, left its clocks alone in 1974,

```

```

# as well as from 1976 through 2005.
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER
Rule Marengo 1951 only - Apr lastSun 2:00 1:00 D
Rule Marengo 1951 only - Sep lastSun 2:00 0 S
Rule Marengo 1954 1960 - Apr lastSun 2:00 1:00 D
Rule Marengo 1954 1960 - Sep lastSun 2:00 0 S
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Indiana/Marengo -5:45:23 - LMT 1883 Nov 18 12:14:37
-6:00 US C%sT 1951
-6:00 Marengo C%sT 1961 Apr 30 2:00
-5:00 - EST 1969
-5:00 US E%sT 1974 Jan 6 2:00
-6:00 1:00 CDT 1974 Oct 27 2:00
-5:00 US E%sT 1976
-5:00 - EST 2006
-5:00 US E%sT
#
# Daviess, Dubois, Knox, and Martin Counties, Indiana,
# switched from eastern to central time in April 2006, then switched back
# in November 2007.
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER
Rule
Vincennes 1946 only - Apr lastSun 2:00 1:00 D
Rule Vincennes 1946 only - Sep lastSun 2:00 0 S
Rule Vincennes 1953 1954 - Apr lastSun 2:00 1:00 D
Rule Vincennes 1953 1959 - Sep lastSun 2:00 0 S
Rule Vincennes 1955 only - May 1 0:00 1:00 D
Rule Vincennes 1956 1963 - Apr lastSun 2:00 1:00 D
Rule Vincennes 1960 only - Oct lastSun 2:00 0 S
Rule Vincennes 1961 only - Sep lastSun 2:00 0 S
Rule Vincennes 1962 1963 - Oct lastSun 2:00 0 S
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Indiana/Vincennes -5:50:07 - LMT 1883 Nov 18 12:09:53
-6:00 US C%sT 1946
-6:00 Vincennes C%sT 1964 Apr 26 2:00
-5:00 - EST 1969
-5:00 US E%sT 1971
-5:00 - EST 2006 Apr 2 2:00
-6:00 US C%sT 2007 Nov 4 2:00
-5:00 US E%sT
#
# Perry County, Indiana, switched from eastern to central time in April 2006.
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER
Rule Perry 1946 only - Apr lastSun 2:00 1:00 D
Rule Perry 1946 only - Sep lastSun 2:00 0 S
Rule Perry 1953 1954 - Apr lastSun 2:00 1:00 D
Rule

```

Perry 1953 1959 - Sep lastSun 2:00 0 S  
 Rule Perry 1955 only - May 1 0:00 1:00 D  
 Rule Perry 1956 1963 - Apr lastSun 2:00 1:00 D  
 Rule Perry 1960 only - Oct lastSun 2:00 0 S  
 Rule Perry 1961 only - Sep lastSun 2:00 0 S  
 Rule Perry 1962 1963 - Oct lastSun 2:00 0 S  
 # Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
 Zone America/Indiana/Tell\_City -5:47:03 - LMT 1883 Nov 18 12:12:57  
 -6:00 US C%sT 1946  
 -6:00 Perry C%sT 1964 Apr 26 2:00  
 -5:00 - EST 1969  
 -5:00 US E%sT 1971  
 -5:00 - EST 2006 Apr 2 2:00  
 -6:00 US C%sT  
 #  
 # Pike County, Indiana moved from central to eastern time in 1977,  
 # then switched back in 2006, then switched back again in 2007.  
 # Rule NAME FROM TO TYPE IN ON AT SAVE LETTER  
 Rule Pike 1955 only - May 1 0:00 1:00 D  
 Rule Pike 1955 1960 - Sep lastSun 2:00 0 S  
 Rule Pike 1956 1964 - Apr lastSun 2:00 1:00 D  
 Rule Pike 1961 1964 - Oct lastSun 2:00 0 S  
 # Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
 Zone America/Indiana/Petersburg -5:49:07 - LMT 1883  
 Nov 18 12:10:53  
 -6:00 US C%sT 1955  
 -6:00 Pike C%sT 1965 Apr 25 2:00  
 -5:00 - EST 1966 Oct 30 2:00  
 -6:00 US C%sT 1977 Oct 30 2:00  
 -5:00 - EST 2006 Apr 2 2:00  
 -6:00 US C%sT 2007 Nov 4 2:00  
 -5:00 US E%sT  
 #  
 # Starke County, Indiana moved from central to eastern time in 1991,  
 # then switched back in 2006.  
 # From Arthur David Olson (1991-10-28):  
 # An article on page A3 of the Sunday, 1991-10-27 Washington Post  
 # notes that Starke County switched from Central time to Eastern time as of  
 # 1991-10-27.  
 # Rule NAME FROM TO TYPE IN ON AT SAVE LETTER  
 Rule Starke 1947 1961 - Apr lastSun 2:00 1:00 D  
 Rule Starke 1947 1954 - Sep lastSun 2:00 0 S  
 Rule Starke 1955 1956 - Oct lastSun 2:00 0 S  
 Rule Starke 1957 1958 - Sep lastSun 2:00 0 S  
 Rule Starke 1959 1961 - Oct lastSun 2:00 0 S  
 # Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
 Zone America/Indiana/Knox -5:46:30 - LMT 1883 Nov 18 12:13:30  
 -6:00 US C%sT 1947

-6:00 Starke C%sT 1962 Apr 29 2:00  
 -5:00 - EST 1963 Oct 27 2:00  
 -6:00 US C%sT 1991  
 Oct 27 2:00  
 -5:00 - EST 2006 Apr 2 2:00  
 -6:00 US C%sT  
 #  
 # Pulaski County, Indiana, switched from eastern to central time in  
 # April 2006 and then switched back in March 2007.  
 # Rule NAME FROM TO TYPE IN ON AT SAVE LETTER  
 Rule Pulaski 1946 1960 - Apr lastSun 2:00 1:00 D  
 Rule Pulaski 1946 1954 - Sep lastSun 2:00 0 S  
 Rule Pulaski 1955 1956 - Oct lastSun 2:00 0 S  
 Rule Pulaski 1957 1960 - Sep lastSun 2:00 0 S  
 # Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
 Zone America/Indiana/Winamac -5:46:25 - LMT 1883 Nov 18 12:13:35  
 -6:00 US C%sT 1946  
 -6:00 Pulaski C%sT 1961 Apr 30 2:00  
 -5:00 - EST 1969  
 -5:00 US E%sT 1971  
 -5:00 - EST 2006 Apr 2 2:00  
 -6:00 US C%sT 2007 Mar 11 2:00  
 -5:00 US E%sT  
 #  
 # Switzerland County, Indiana, did not observe DST from 1973 through 2005.  
 # Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
 Zone America/Indiana/Vevay -5:40:16 - LMT 1883 Nov 18 12:19:44  
 -6:00 US C%sT 1954 Apr 25 2:00  
 -5:00 - EST 1969  
 -5:00 US E%sT 1973  
 -5:00 - EST 2006  
 -5:00 US E%sT  
 #  
 Part of Kentucky left its clocks alone in 1974.  
 # This also includes Clark, Floyd, and Harrison counties in Indiana.  
 # Rule NAME FROM TO TYPE IN ON AT SAVE LETTER  
 Rule Louisville 1921 only - May 1 2:00 1:00 D  
 Rule Louisville 1921 only - Sep 1 2:00 0 S  
 Rule Louisville 1941 1961 - Apr lastSun 2:00 1:00 D  
 Rule Louisville 1941 only - Sep lastSun 2:00 0 S  
 Rule Louisville 1946 only - Jun 2 2:00 0 S  
 Rule Louisville 1950 1955 - Sep lastSun 2:00 0 S  
 Rule Louisville 1956 1960 - Oct lastSun 2:00 0 S  
 # Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
 Zone America/Kentucky/Louisville -5:43:02 - LMT 1883 Nov 18 12:16:58  
 -6:00 US C%sT 1921  
 -6:00 Louisville C%sT 1942

-6:00 US C%sT 1946  
-6:00 Louisville C%sT 1961 Jul 23 2:00  
-5:00 - EST 1968  
-5:00 US E%sT 1974 Jan 6 2:00  
-6:00 1:00 CDT 1974 Oct 27 2:00  
-5:00 US E%sT  
#  
# Wayne County, Kentucky  
#  
# From  
# <a href="http://www.lake-cumberland.com/life/archive/news990129time.shtml">  
# Lake Cumberland LIFE  
# </a> (1999-01-29)  
# via WKYM-101.7:  
# Clinton County has joined Wayne County in asking the DoT to change from  
# the Central to the Eastern time zone.... The Wayne County government made  
# the same request in December. And while Russell County officials have not  
# taken action, the majority of respondents to a poll conducted there in  
# August indicated they would like to change to "fast time" also.  
# The three Lake Cumberland counties are the farthest east of any U.S.  
# location in the Central time zone.  
#  
# From Rich Wales (2000-08-29):  
# After prolonged debate, and despite continuing deep differences of opinion,  
# Wayne County (central Kentucky) is switching from Central (-0600) to Eastern  
# (-0500) time. They won't "fall back" this year. See Sara Shipley,  
# The difference an hour makes, Nando Times (2000-08-29 15:33 -0400).  
#  
# From Paul Eggert (2001-07-16):  
# The final rule was published in the  
# <a href="http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2000\_register&docid=fr17au00-22">  
#  
# Federal Register 65, 160 (2000-08-17), page 50154-50158.  
# </a>  
#  
Zone America/Kentucky/Monticello -5:39:24 - LMT 1883 Nov 18 12:20:36  
-6:00 US C%sT 1946  
-6:00 - CST 1968  
-6:00 US C%sT 2000 Oct 29 2:00  
-5:00 US E%sT  
  
# From Rives McDow (2000-08-30):  
# Here ... are all the changes in the US since 1985.  
# Kearny County, KS (put all of county on central;  
# previously split between MST and CST) ... 1990-10  
# Starke County, IN (from CST to EST) ... 1991-10  
# Oliver County, ND (from MST to CST) ... 1992-10



# West Wendover, NV (from PST TO MST) ... 1999-10  
# Wayne County, KY (from CST to EST) ... 2000-10  
#  
# From Paul Eggert (2001-07-17):  
# We don't know where the line used to be within Kearny County, KS,  
# so omit that change for now.  
# See America/Indiana/Knox for the Starke County, IN change.  
# See America/North\_Dakota/Center for the Oliver County, ND change.  
# West Wendover, NV officially switched from Pacific to mountain time on  
# 1999-10-31. See the  
# [http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=1999\\_register&docid=fr21oc99-15](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=1999_register&docid=fr21oc99-15)>  
#  
# Federal Register 64, 203 (1999-10-21), page 56705-56707.  
# </a>  
# However, the Federal Register says that West Wendover already operated  
# on mountain time, and the rule merely made this official;  
# hence a separate tz entry is not needed.

# Michigan  
#  
# From Bob Devine (1988-01-28):  
# Michigan didn't observe DST from 1968 to 1973.  
#  
# From Paul Eggert (1999-03-31):  
# Shanks writes that Michigan started using standard time on 1885-09-18,  
# but Howse writes (pp 124-125, referring to Popular Astronomy, 1901-01)  
# that Detroit kept  
#  
# local time until 1900 when the City Council decreed that clocks should  
# be put back twenty-eight minutes to Central Standard Time. Half the  
# city obeyed, half refused. After considerable debate, the decision  
# was rescinded and the city reverted to Sun time. A derisive offer to  
# erect a sundial in front of the city hall was referred to the  
# Committee on Sewers.  
# Then, in 1905, Central time was adopted  
# by city vote.  
#  
# This story is too entertaining to be false, so go with Howse over Shanks.  
#  
# From Paul Eggert (2001-03-06):  
# Garland (1927) writes ``Cleveland and Detroit advanced their clocks  
# one hour in 1914.' This change is not in Shanks. We have no more  
# info, so omit this for now.  
#  
# Most of Michigan observed DST from 1973 on, but was a bit late in 1975.  
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER  
Rule Detroit 1948 only - Apr lastSun 2:00 1:00 D  
Rule Detroit 1948 only - Sep lastSun 2:00 0 S

```

Rule Detroit 1967 only - Jun 14 2:00 1:00 D
Rule Detroit 1967 only - Oct lastSun 2:00 0 S
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone America/Detroit -5:32:11 - LMT 1905
-6:00 - CST 1915 May 15 2:00
-5:00 - EST 1942
-5:00 US E%sT 1946
-5:00 Detroit E%sT 1973
-5:00 US E%sT 1975
-5:00 - EST 1975 Apr 27 2:00
-5:00 US E%sT
#
# Dickinson, Gogebic, Iron, and Menominee Counties, Michigan,
# switched from EST to CST/CDT in 1973.
#
Rule NAME FROM TO TYPE IN ON AT SAVE LETTER
Rule Menominee 1946 only - Apr lastSun 2:00 1:00 D
Rule Menominee 1946 only - Sep lastSun 2:00 0 S
Rule Menominee 1966 only - Apr lastSun 2:00 1:00 D
Rule Menominee 1966 only - Oct lastSun 2:00 0 S
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone America/Menominee -5:50:27 - LMT 1885 Sep 18 12:00
-6:00 US C%sT 1946
-6:00 Menominee C%sT 1969 Apr 27 2:00
-5:00 - EST 1973 Apr 29 2:00
-6:00 US C%sT

# Navassa
# administered by the US Fish and Wildlife Service
# claimed by US under the provisions of the 1856 Guano Islands Act
# also claimed by Haiti
# occupied 1857/1900 by the Navassa Phosphate Co
# US lighthouse 1917/1996-09
# currently uninhabited
# see Mark Fineman, ``An Isle Rich in Guano and Discord'',
# _Los Angeles Times_ (1998-11-10), A1, A10; it cites
# Jimmy Skaggs, _The Great Guano Rush_ (1994).

#####

# From Paul Eggert (2006-03-22):
# A good source
# for time zone historical data outside the U.S. is
# Thomas G. Shanks and Rique Pottenger, The International Atlas (6th edition),
# San Diego: ACS Publications, Inc. (2003).
#
# Gwillim Law writes that a good source

```

# for recent time zone data is the International Air Transport  
# Association's Standard Schedules Information Manual (IATA SSIM),  
# published semiannually. Law sent in several helpful summaries  
# of the IATA's data after 1990.  
#  
# Except where otherwise noted, Shanks & Pottenger is the source for  
# entries through 1990, and IATA SSIM is the source for entries afterwards.  
#  
# Other sources occasionally used include:  
#  
# Edward W. Whitman, World Time Differences,  
# Whitman Publishing Co, 2 Niagara Av, Ealing, London (undated),  
# which I found in the UCLA library.  
#  
# [http://www.pettswoodvillage.co.uk/Daylight\\_Savings\\_William\\_Willett.pdf](http://www.pettswoodvillage.co.uk/Daylight_Savings_William_Willett.pdf)  
# William Willett, The Waste of Daylight, 19th edition  
# (1914-03)  
#  
# Milne J. Civil time. Geogr J. 1899 Feb;13(2):173-94  
# <http://www.jstor.org/stable/1774359>.  
#  
#  
See the `europe' file for Greenland.

# Canada

# From Alain LaBonté (1994-11-14):  
# I post here the time zone abbreviations standardized in Canada  
# for both English and French in the CAN/CSA-Z234.4-89 standard....  
#  
# UTC Standard time Daylight savings time  
# offset French English French English  
# -2:30 - - HAT NDT  
# -3 - - HAA ADT  
# -3:30 HNT NST - -  
# -4 HNA AST HAE EDT  
# -5 HNE EST HAC CDT  
# -6 HNC CST HAR MDT  
# -7 HNR MST HAP PDT  
# -8 HNP PST HAY YDT  
# -9 HNY YST - -  
#  
# HN: Heure Normale ST: Standard Time  
# HA: Heure Avancée DT: Daylight saving Time  
#  
# A: de l'Atlantique Atlantic  
# C: du Centre Central  
# E: de l'Est Eastern

# M: Mountain  
 # N: Newfoundland  
 # P: du Pacifique Pacific  
 # R: des Rocheuses  
 # T: de Terre-Neuve  
 # Y: du Yukon Yukon  
 #  
 # From Paul Eggert (1994-11-22):  
 # Alas, this sort of thing must be handled by localization software.  
  
 # Unless otherwise specified, the data for Canada are all from Shanks  
 # & Pottenger.  
  
 #  
 # From Chris Walton (2006-04-01, 2006-04-25, 2006-06-26, 2007-01-31,  
 # 2007-03-01):  
 # The British Columbia government announced yesterday that it will  
 # adjust daylight savings next year to align with changes in the  
 # U.S. and the rest of Canada...  
 # [http://www2.news.gov.bc.ca/news\\_releases\\_2005-2009/2006AG0014-000330.htm](http://www2.news.gov.bc.ca/news_releases_2005-2009/2006AG0014-000330.htm)  
 # ...  
 # Nova Scotia  
 # Daylight saving time will be extended by four weeks starting in 2007...  
 # <http://www.gov.ns.ca/just/regulations/rg2/2006/ma1206.pdf>  
 #  
 # [For New Brunswick] the new legislation dictates that the time change is to  
 # be done at 02:00 instead of 00:01.  
 # <http://www.gnb.ca/0062/acts/BBA-2006/Chap-19.pdf>  
 # ...  
 # Manitoba has traditionally changed the clock every fall at 03:00.  
 # As of 2006, the transition is to take place one hour earlier at 02:00.  
 # <http://web2.gov.mb.ca/laws/statutes/ccsm/o030e.php>  
 # ...  
 # [Alberta, Ontario, Quebec] will follow US rules.  
 # [http://www.qp.gov.ab.ca/documents/spring/CH03\\_06.CFM](http://www.qp.gov.ab.ca/documents/spring/CH03_06.CFM)  
 # [http://www.e-laws.gov.on.ca/DBLaws/Source/Regs/English/2006/R06111\\_e.htm](http://www.e-laws.gov.on.ca/DBLaws/Source/Regs/English/2006/R06111_e.htm)  
 #  
 # <http://www2.publicationsduquebec.gouv.qc.ca/dynamicSearch/telecharge.php?type=5&file=2006C39A.PDF>  
 # ...  
 # P.E.I. will follow US rules...  
 # [http://www.assembly.pe.ca/bills/pdf\\_chapter/62/3/chapter-41.pdf](http://www.assembly.pe.ca/bills/pdf_chapter/62/3/chapter-41.pdf)  
 # ...  
 # Province of Newfoundland and Labrador...  
 # <http://www.hoa.gov.nl.ca/hoa/bills/Bill0634.htm>  
 # ...  
 # Yukon  
 # [http://www.gov.yk.ca/legislation/regs/oic2006\\_127.pdf](http://www.gov.yk.ca/legislation/regs/oic2006_127.pdf)  
 # ...

# N.W.T. will follow US rules. Whoever maintains the government web site  
# does not seem to believe in bookmarks. To see the news release, click the  
# following link and search for "Daylight Savings Time Change". Press the  
# "Daylight Savings Time Change" link; it will fire off a popup using  
# JavaScript.  
# <http://www.exec.gov.nt.ca/currentnews/currentPR.asp?mode=archive>  
# ...  
# Nunavut  
# An amendment to the Interpretation Act was registered on February 19/2007...  
# <http://action.attavik.ca/home/justice-gn/attach/2007/gaz02part2.pdf>

# From Paul Eggert (2006-04-25):  
#  
# H. David Matthews and Mary Vincent's map  
# # "It's about TIME", \_Canadian Geographic\_ (September-October 1998)  
# </a> contains detailed boundaries for regions observing nonstandard  
# time and daylight saving time arrangements in Canada circa 1998.  
#  
# INMS, the Institute for National Measurement Standards in Ottawa, has # information about standard and daylight saving time zones in Canada.  
# </a> (updated periodically).  
# Its unofficial information is often taken from Matthews and Vincent.

# From Paul Eggert (2006-06-27):  
# For now, assume all of DST-observing Canada will fall into line with the  
# new US DST rules,

# From Chris Walton (2011-12-01)  
# In the first of Tammy Hardwick's articles  
# # <http://www.ilovecreston.com/?p=articles&t=spec&ar=260>  
# </a>  
# she quotes  
# the Friday November 1/1918 edition of the Creston Review.  
# The quote includes these two statements:  
# 'Sunday the CPR went back to the old system of time...'  
# '... The daylight saving scheme was dropped all over Canada at the same time,'  
# These statements refer to a transition from daylight time to standard time  
# that occurred nationally on Sunday October 27/1918. This transition was  
# also documented in the Saturday October 26/1918 edition of the Toronto Star.

# In light of that evidence, we alter the date from the earlier believed  
# Oct 31, to Oct 27, 1918 (and Sunday is a more likely transition day  
# than Thursday) in all Canadian rulesets.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Canada 1918 only - Apr 14 2:00 1:00 D  
Rule Canada 1918 only - Oct 27 2:00 0 S  
Rule Canada 1942 only - Feb 9 2:00 1:00 W # War  
Rule Canada 1945 only - Aug 14 23:00u 1:00 P # Peace  
Rule Canada 1945 only - Sep 30 2:00 0 S  
Rule Canada 1974 1986 - Apr lastSun 2:00 1:00 D  
Rule Canada 1974 2006 - Oct lastSun 2:00 0 S  
Rule Canada 1987 2006 - Apr Sun>=1 2:00 1:00 D  
Rule Canada 2007 max - Mar Sun>=8 2:00 1:00 D  
Rule Canada 2007 max - Nov Sun>=1 2:00 0 S

#

Newfoundland and Labrador

# From Paul Eggert (2000-10-02):

# Matthews and Vincent (1998) write that Labrador should use NST/NDT,  
# but the only part of Labrador that follows the rules is the  
# southeast corner, including Port Hope Simpson and Mary's Harbour,  
# but excluding, say, Black Tickle.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule StJohns 1917 only - Apr 8 2:00 1:00 D

Rule StJohns 1917 only - Sep 17 2:00 0 S

# Whitman gives 1919 Apr 5 and 1920 Apr 5; go with Shanks & Pottenger.

Rule StJohns 1919 only - May 5 23:00 1:00 D

Rule StJohns 1919 only - Aug 12 23:00 0 S

# For 1931-1935 Whitman gives Apr same date; go with Shanks & Pottenger.

Rule StJohns 1920 1935 - May Sun>=1 23:00 1:00 D

Rule StJohns 1920 1935 - Oct lastSun 23:00 0 S

# For 1936-1941 Whitman gives May Sun>=8 and Oct Sun>=1; go with Shanks &

#

Pottenger.

Rule StJohns 1936 1941 - May Mon>=9 0:00 1:00 D

Rule StJohns 1936 1941 - Oct Mon>=2 0:00 0 S

# Whitman gives the following transitions:

# 1942 03-01/12-31, 1943 05-30/09-05, 1944 07-10/09-02, 1945 01-01/10-07

# but go with Shanks & Pottenger and assume they used Canadian rules.

# For 1946-9 Whitman gives May 5,4,9,1 - Oct 1,5,3,2, and for 1950 he gives

# Apr 30 - Sep 24; go with Shanks & Pottenger.

Rule StJohns 1946 1950 - May Sun>=8 2:00 1:00 D

Rule StJohns 1946 1950 - Oct Sun>=2 2:00 0 S

Rule StJohns 1951 1986 - Apr lastSun 2:00 1:00 D

Rule StJohns 1951 1959 - Sep lastSun 2:00 0 S

Rule StJohns 1960 1986 - Oct lastSun 2:00 0 S

# From Paul Eggert (2000-10-02):

# INMS (2000-09-12) says that, since 1988 at least, Newfoundland switches

# at 00:01 local time. For now, assume it started in 1987.

```
# From Michael Pelley (2011-09-12):
# We received today, Monday, September 12, 2011, notification that the
# changes to the Newfoundland Standard Time Act have been proclaimed.
# The
# change in the Act stipulates that the change from Daylight Savings
# Time to Standard Time and from Standard Time to Daylight Savings Time
# now occurs at 2:00AM.
# ...
# <a href="http://www.assembly.nl.ca/legislation/sr/annualstatutes/2011/1106.chp.htm">
# http://www.assembly.nl.ca/legislation/sr/annualstatutes/2011/1106.chp.htm
# </a>
# ...
# MICHAEL PELLELY | Manager of Enterprise Architecture - Solution Delivery
# Office of the Chief Information Officer
# Executive Council
# Government of Newfoundland & Labrador
```

```
Rule StJohns 1987 only - Apr Sun>=1 0:01 1:00 D
Rule StJohns 1987 2006 - Oct lastSun 0:01 0 S
Rule StJohns 1988 only - Apr Sun>=1 0:01 2:00 DD
Rule StJohns 1989 2006 - Apr Sun>=1 0:01 1:00 D
Rule StJohns 2007 2011 - Mar Sun>=8 0:01 1:00 D
Rule StJohns 2007 2010 - Nov Sun>=1 0:01 0 S
```

```
#
# St John's has an apostrophe, but Posix file names can't have apostrophes.
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/St_Johns -3:30:52 - LMT 1884
-3:30:52 StJohns N%sT 1918
-3:30:52
Canada N%sT 1919
-3:30:52 StJohns N%sT 1935 Mar 30
-3:30 StJohns N%sT 1942 May 11
-3:30 Canada N%sT 1946
-3:30 StJohns N%sT 2011 Nov
-3:30 Canada N%sT
```

```
# most of east Labrador
```

```
# The name `Happy Valley-Goose Bay' is too long; use `Goose Bay'.
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Goose_Bay -4:01:40 - LMT 1884 # Happy Valley-Goose Bay
-3:30:52 - NST 1918
-3:30:52 Canada N%sT 1919
-3:30:52 - NST 1935 Mar 30
-3:30 - NST 1936
-3:30 StJohns N%sT 1942 May 11
-3:30 Canada N%sT 1946
```

-3:30 StJohns N%ST 1966 Mar 15 2:00

-4:00 StJohns A%ST 2011 Nov

-4:00 Canada A%ST

# west Labrador, Nova Scotia, Prince Edward I

# From Paul Eggert (2006-03-22):

# Shanks & Pottenger write that since 1970 most of this region has been like

# Halifax. Many locales did not observe peacetime DST until 1972;

# Glace Bay, NS is the largest that we know of.

# Shanks & Pottenger also write that Liverpool, NS was the only town

# in Canada to observe DST

in 1971 but not 1970; for now we'll assume

# this is a typo.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Halifax 1916 only - Apr 1 0:00 1:00 D

Rule Halifax 1916 only - Oct 1 0:00 0 S

Rule Halifax 1920 only - May 9 0:00 1:00 D

Rule Halifax 1920 only - Aug 29 0:00 0 S

Rule Halifax 1921 only - May 6 0:00 1:00 D

Rule Halifax 1921 1922 - Sep 5 0:00 0 S

Rule Halifax 1922 only - Apr 30 0:00 1:00 D

Rule Halifax 1923 1925 - May Sun>=1 0:00 1:00 D

Rule Halifax 1923 only - Sep 4 0:00 0 S

Rule Halifax 1924 only - Sep 15 0:00 0 S

Rule Halifax 1925 only - Sep 28 0:00 0 S

Rule Halifax 1926 only - May 16 0:00 1:00 D

Rule Halifax 1926 only - Sep 13 0:00 0 S

Rule Halifax 1927 only - May 1 0:00 1:00 D

Rule Halifax 1927 only - Sep 26 0:00 0 S

Rule Halifax 1928 1931 - May Sun>=8 0:00 1:00 D

Rule Halifax 1928 only - Sep 9 0:00 0 S

Rule Halifax 1929 only - Sep 3 0:00 0 S

Rule Halifax 1930 only - Sep 15 0:00 0 S

Rule Halifax 1931 1932 - Sep Mon>=24 0:00 0 S

Rule Halifax 1932 only - May 1 0:00 1:00 D

Rule Halifax 1933 only - Apr 30 0:00 1:00 D

Rule Halifax 1933 only - Oct

2 0:00 0 S

Rule Halifax 1934 only - May 20 0:00 1:00 D

Rule Halifax 1934 only - Sep 16 0:00 0 S

Rule Halifax 1935 only - Jun 2 0:00 1:00 D

Rule Halifax 1935 only - Sep 30 0:00 0 S

Rule Halifax 1936 only - Jun 1 0:00 1:00 D

Rule Halifax 1936 only - Sep 14 0:00 0 S

Rule Halifax 1937 1938 - May Sun>=1 0:00 1:00 D



Rule Halifax 1937 1941 - Sep Mon>=24 0:00 0 S  
 Rule Halifax 1939 only - May 28 0:00 1:00 D  
 Rule Halifax 1940 1941 - May Sun>=1 0:00 1:00 D  
 Rule Halifax 1946 1949 - Apr lastSun 2:00 1:00 D  
 Rule Halifax 1946 1949 - Sep lastSun 2:00 0 S  
 Rule Halifax 1951 1954 - Apr lastSun 2:00 1:00 D  
 Rule Halifax 1951 1954 - Sep lastSun 2:00 0 S  
 Rule Halifax 1956 1959 - Apr lastSun 2:00 1:00 D  
 Rule Halifax 1956 1959 - Sep lastSun 2:00 0 S  
 Rule Halifax 1962 1973 - Apr lastSun 2:00 1:00 D  
 Rule Halifax 1962 1973 - Oct lastSun 2:00 0 S  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone America/Halifax -4:14:24 - LMT 1902  
 Jun 15  
 -4:00 Halifax A%sT 1918  
 -4:00 Canada A%sT 1919  
 -4:00 Halifax A%sT 1942 Feb 9 2:00s  
 -4:00 Canada A%sT 1946  
 -4:00 Halifax A%sT 1974  
 -4:00 Canada A%sT  
 Zone America/Glace\_Bay -3:59:48 - LMT 1902 Jun 15  
 -4:00 Canada A%sT 1953  
 -4:00 Halifax A%sT 1954  
 -4:00 - AST 1972  
 -4:00 Halifax A%sT 1974  
 -4:00 Canada A%sT  
  
 # New Brunswick  
  
 # From Paul Eggert (2007-01-31):  
 # The Time Definition Act <<http://www.gnb.ca/0062/PDF-acts/t-06.pdf>>  
 # says they changed at 00:01 through 2006, and  
 # <<http://www.canlii.org/nb/laws/sta/t-6/20030127/whole.html>> makes it  
 # clear that this was the case since at least 1993.  
 # For now, assume it started in 1993.  
  
 # Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
 Rule Moncton 1933 1935 - Jun Sun>=8 1:00 1:00 D  
 Rule Moncton 1933 1935 - Sep Sun>=8 1:00 0 S  
 Rule Moncton 1936 1938 - Jun Sun>=1 1:00 1:00 D  
 Rule Moncton 1936 1938 - Sep Sun>=1 1:00 0 S  
 Rule Moncton 1939 only - May 27 1:00 1:00 D  
 Rule Moncton 1939 1941 - Sep Sat>=21 1:00 0 S  
 Rule Moncton 1940 only - May 19 1:00 1:00 D  
 Rule Moncton 1941 only - May  
 4 1:00 1:00 D  
 Rule Moncton 1946 1972 - Apr lastSun 2:00 1:00 D  
 Rule Moncton 1946 1956 - Sep lastSun 2:00 0 S

Rule Moncton 1957 1972 - Oct lastSun 2:00 0 S  
Rule Moncton 1993 2006 - Apr Sun>=1 0:01 1:00 D  
Rule Moncton 1993 2006 - Oct lastSun 0:01 0 S  
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
Zone America/Moncton -4:19:08 - LMT 1883 Dec 9  
-5:00 - EST 1902 Jun 15  
-4:00 Canada A%sT 1933  
-4:00 Moncton A%sT 1942  
-4:00 Canada A%sT 1946  
-4:00 Moncton A%sT 1973  
-4:00 Canada A%sT 1993  
-4:00 Moncton A%sT 2007  
-4:00 Canada A%sT

# Quebec

# From Paul Eggert (2006-07-09):  
# Shanks & Pottenger write that since 1970 most of Quebec has been  
# like Montreal.

# From Paul Eggert (2006-06-27):  
# Matthews and Vincent (1998) also write that Quebec east of the -63  
# meridian is supposed to observe AST, but residents as far east as  
# Natashquan use EST/EDT, and residents east of Natashquan use AST.  
# In "Official  
time in Quebec" the Quebec department of justice writes in  
# <http://www.justice.gouv.qc.ca/english/publications/generale/temps-regl-1-a.htm>  
# that "The residents of the Municipality of the  
# Cote-Nord-du-Golfe-Saint-Laurent and the municipalities of Saint-Augustin,  
# Bonne-Esperance and Blanc-Sablon apply the Official Time Act as it is  
# written and use Atlantic standard time all year round. The same applies to  
# the residents of the Native facilities along the lower North Shore."  
# <http://www.assnat.qc.ca/eng/37legislature2/Projets-loi/Publics/06-a002.htm>  
# says this common practice was codified into law as of 2007.  
# For lack of better info, guess this practice began around 1970, contra to  
# Shanks & Pottenger who have this region observing AST/ADT.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Mont 1917 only - Mar 25 2:00 1:00 D  
Rule Mont 1917 only - Apr 24 0:00 0 S  
Rule Mont 1919 only - Mar 31 2:30 1:00 D  
Rule Mont 1919 only - Oct 25 2:30 0 S  
Rule Mont 1920 only - May 2 2:30 1:00 D  
Rule Mont 1920 1922 - Oct Sun>=1 2:30 0 S  
Rule Mont 1921 only - May  
1 2:00 1:00 D  
Rule Mont 1922 only - Apr 30 2:00 1:00 D  
Rule Mont 1924 only - May 17 2:00 1:00 D

```

Rule Mont 1924 1926 - Sep lastSun 2:30 0 S
Rule Mont 1925 1926 - May Sun>=1 2:00 1:00 D
# The 1927-to-1937 rules can be expressed more simply as
# Rule Mont 1927 1937 - Apr lastSat 24:00 1:00 D
# Rule Mont 1927 1937 - Sep lastSat 24:00 0 S
# The rules below avoid use of 24:00
# (which pre-1998 versions of zic cannot handle).
Rule Mont 1927 only - May 1 0:00 1:00 D
Rule Mont 1927 1932 - Sep lastSun 0:00 0 S
Rule Mont 1928 1931 - Apr lastSun 0:00 1:00 D
Rule Mont 1932 only - May 1 0:00 1:00 D
Rule Mont 1933 1940 - Apr lastSun 0:00 1:00 D
Rule Mont 1933 only - Oct 1 0:00 0 S
Rule Mont 1934 1939 - Sep lastSun 0:00 0 S
Rule Mont 1946 1973 - Apr lastSun 2:00 1:00 D
Rule Mont 1945 1948 - Sep lastSun 2:00 0 S
Rule Mont 1949 1950 - Oct lastSun 2:00 0 S
Rule Mont 1951 1956 - Sep lastSun 2:00 0 S
Rule Mont 1957 1973 - Oct lastSun 2:00 0 S

#
Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Blanc-Sablon -3:48:28 - LMT 1884
-4:00 Canada A%sT 1970
-4:00 - AST
Zone America/Montreal -4:54:16 - LMT 1884
-5:00 Mont E%sT 1918
-5:00 Canada E%sT 1919
-5:00 Mont E%sT 1942 Feb 9 2:00s
-5:00 Canada E%sT 1946
-5:00 Mont E%sT 1974
-5:00 Canada E%sT

# Ontario

# From Paul Eggert (2006-07-09):
# Shanks & Pottenger write that since 1970 most of Ontario has been like
# Toronto.
# Thunder Bay skipped DST in 1973.
# Many smaller locales did not observe peacetime DST until 1974;
# Nipigon (EST) and Rainy River (CST) are the largest that we know of.
# Far west Ontario is like Winnipeg; far east Quebec is like Halifax.

# From Mark Brader (2003-07-26):
# [According to the Toronto Star] Orillia, Ontario, adopted DST
# effective Saturday, 1912-06-22, 22:00; the article mentions that
# Port Arthur (now part of Thunder Bay, Ontario) as well as Moose Jaw

```

# have already done so. In Orillia DST was to run  
until Saturday,  
# 1912-08-31 (no time mentioned), but it was met with considerable  
# hostility from certain segments of the public, and was revoked after  
# only two weeks -- I copied it as Saturday, 1912-07-07, 22:00, but  
# presumably that should be -07-06. (1912-06-19, -07-12; also letters  
# earlier in June).  
#  
# Kenora, Ontario, was to abandon DST on 1914-06-01 (-05-21).

# From Paul Eggert (1997-10-17):  
# Mark Brader writes that an article in the 1997-10-14 Toronto Star  
# says that Atikokan, Ontario currently does not observe DST,  
# but will vote on 11-10 whether to use EST/EDT.  
# He also writes that the  
# <http://www.gov.on.ca/MBS/english/publications/statregs/context.html>  
# Ontario Time Act (1990, Chapter T.9)  
#  
# says that Ontario east of 90W uses EST/EDT, and west of 90W uses CST/CDT.  
# Officially Atikokan is therefore on CST/CDT, and most likely this report  
# concerns a non-official time observed as a matter of local practice.  
#  
# From Paul Eggert (2000-10-02):  
#  
# Matthews and Vincent (1998) write that Atikokan, Pickle Lake, and  
# New Osnaburgh observe CST all year, that Big Trout Lake observes  
# CST/CDT, and that Upsala and Shebandowan observe EST/EDT, all in  
# violation of the official Ontario rules.  
#  
# From Paul Eggert (2006-07-09):  
# Chris Walton (2006-07-06) mentioned an article by Stephanie MacLellan in the  
# 2005-07-21 Chronicle-Journal, which said:  
#  
# The clocks in Atikokan stay set on standard time year-round.  
# This means they spend about half the time on central time and  
# the other half on eastern time.  
#  
# For the most part, the system works, Mayor Dennis Brown said.  
#  
# "The majority of businesses in Atikokan deal more with Eastern  
# Canada, but there are some that deal with Western Canada," he  
# said. "I don't see any changes happening here."  
#  
# Walton also writes "Supposedly Pickle Lake and Mishkeegogamang  
# [New Osnaburgh] follow the same practice."

# From Garry McKinnon (2006-07-14) via Chris Walton:  
# I chatted with

a member of my board who has an outstanding memory  
# and a long history in Atikokan (and in the telecom industry) and he  
# can say for certain that Atikokan has been practicing the current  
# time keeping since 1952, at least.

# From Paul Eggert (2006-07-17):

# Shanks & Pottenger say that Atikokan has agreed with Rainy River  
# ever since standard time was introduced, but the information from  
# McKinnon sounds more authoritative. For now, assume that Atikokan  
# switched to EST immediately after WWII era daylight saving time  
# ended. This matches the old (less-populous) America/Coral\_Harbour  
# entry since our cutoff date of 1970, so we can move  
# America/Coral\_Harbour to the 'backward' file.

# From Mark Brader (2010-03-06):

#

# Currently the database has:

#

# # Ontario

#

# # From Paul Eggert (2006-07-09):

# # Shanks & Pottenger write that since 1970 most of Ontario has been like  
# # Toronto.

# # Thunder Bay skipped DST in 1973.

# # Many smaller locales did not observe peacetime DST until  
1974;

# # Nipigon (EST) and Rainy River (CST) are the largest that we know of.

#

# In the (Toronto) Globe and Mail for Saturday, 1955-09-24, in the bottom  
# right corner of page 1, it says that Toronto will return to standard  
# time at 2 am Sunday morning (which agrees with the database), and that:

#

# The one-hour setback will go into effect throughout most of Ontario,  
# except in areas like Windsor which remains on standard time all year.

#

# Windsor is, of course, a lot larger than Nipigon.

#

# I only came across this incidentally. I don't know if Windsor began  
# observing DST when Detroit did, or in 1974, or on some other date.

#

# By the way, the article continues by noting that:

#

# Some cities in the United States have pushed the deadline back  
# three weeks and will change over from daylight saving in October.

# From Arthur David Olson (2010-07-17):

#

# "Standard Time and Time Zones in Canada" appeared in

# The Journal of The Royal Astronomical Society of  
Canada,  
# volume 26, number 2 (February 1932) and, as of 2010-07-17,  
# was available at  
# <a href="http://adsabs.harvard.edu/full/1932JRASC..26...49S">  
# http://adsabs.harvard.edu/full/1932JRASC..26...49S  
# </a>  
#  
# It includes the text below (starting on page 57):  
#  
# A list of the places in Canada using daylight saving time would  
# require yearly revision. From information kindly furnished by  
# the provincial governments and by the postmasters in many cities  
# and towns, it is found that the following places used daylight sav-  
# ing in 1930. The information for the province of Quebec is definite,  
# for the other provinces only approximate:  
#  
# Province Daylight saving time used  
# Prince Edward Island Not used.  
# Nova Scotia In Halifax only.  
# New Brunswick In St. John only.  
# Quebec In the following places:  
# Montreal Lachine  
# Quebec Mont-Royal  
# Levis Iberville  
# St. Lambert Cap de la Madeleine  
# Verdun Loretteville  
# Westmount Richmond  
# Outremont St.  
Jerome  
# Longueuil Greenfield Park  
# Arvida Waterloo  
# Chambly-Canton Beaulieu  
# Melbourne La Tuque  
# St. Theophile Buckingham  
# Ontario Used generally in the cities and towns along  
# the southerly part of the province. Not  
# used in the northwesterlhy part.  
# Manitoba Not used.  
# Saskatchewan In Regina only.  
# Alberta Not used.  
# British Columbia Not used.  
#  
# With some exceptions, the use of daylight saving may be said to be limited  
# to those cities and towns lying between Quebec city and Windsor, Ont.  
  
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Toronto 1919 only - Mar 30 23:30 1:00 D

Rule Toronto 1919 only - Oct 26 0:00 0 S  
 Rule Toronto 1920 only - May 2 2:00 1:00 D  
 Rule Toronto 1920 only - Sep 26 0:00 0 S  
 Rule Toronto 1921 only - May 15 2:00 1:00 D  
 Rule Toronto 1921 only - Sep 15 2:00 0 S  
 Rule Toronto 1922 1923 - May Sun>=8 2:00 1:00 D  
 # Shanks & Pottenger say 1923-09-19; assume it's a typo and that "-16"  
 # was meant.  
 Rule Toronto 1922 1926 - Sep Sun>=15 2:00 0 S  
 Rule Toronto 1924 1927 - May Sun>=1 2:00 1:00 D  
 #  
 The 1927-to-1939 rules can be expressed more simply as  
 # Rule Toronto 1927 1937 - Sep Sun>=25 2:00 0 S  
 # Rule Toronto 1928 1937 - Apr Sun>=25 2:00 1:00 D  
 # Rule Toronto 1938 1940 - Apr lastSun 2:00 1:00 D  
 # Rule Toronto 1938 1939 - Sep lastSun 2:00 0 S  
 # The rules below avoid use of Sun>=25  
 # (which pre-2004 versions of zic cannot handle).  
 Rule Toronto 1927 1932 - Sep lastSun 2:00 0 S  
 Rule Toronto 1928 1931 - Apr lastSun 2:00 1:00 D  
 Rule Toronto 1932 only - May 1 2:00 1:00 D  
 Rule Toronto 1933 1940 - Apr lastSun 2:00 1:00 D  
 Rule Toronto 1933 only - Oct 1 2:00 0 S  
 Rule Toronto 1934 1939 - Sep lastSun 2:00 0 S  
 Rule Toronto 1945 1946 - Sep lastSun 2:00 0 S  
 Rule Toronto 1946 only - Apr lastSun 2:00 1:00 D  
 Rule Toronto 1947 1949 - Apr lastSun 0:00 1:00 D  
 Rule Toronto 1947 1948 - Sep lastSun 0:00 0 S  
 Rule Toronto 1949 only - Nov lastSun 0:00 0 S  
 Rule Toronto 1950 1973 - Apr lastSun 2:00 1:00 D  
 Rule Toronto 1950 only - Nov lastSun 2:00 0 S  
 Rule Toronto 1951 1956 - Sep lastSun 2:00 0 S  
 #  
 Shanks & Pottenger say Toronto ended DST a week early in 1971,  
 # namely on 1971-10-24, but Mark Brader wrote (2003-05-31) that this  
 # is wrong, and that he had confirmed it by checking the 1971-10-30  
 # Toronto Star, which said that DST was ending 1971-10-31 as usual.  
 Rule Toronto 1957 1973 - Oct lastSun 2:00 0 S  
  
 # From Paul Eggert (2003-07-27):  
 # Willett (1914-03) writes (p. 17) "In the Cities of Fort William, and  
 # Port Arthur, Ontario, the principle of the Bill has been in  
 # operation for the past three years, and in the City of Moose Jaw,  
 # Saskatchewan, for one year."  
  
 # From David Bryan via Tory Tronrud, Director/Curator,  
 # Thunder Bay Museum (2003-11-12):  
 # There is some suggestion, however, that, by-law or not, daylight

# savings time was being practiced in Fort William and Port Arthur  
# before 1909.... [I]n 1910, the line between the Eastern and Central  
# Time Zones was permanently moved about two hundred miles  
west to  
# include the Thunder Bay area.... When Canada adopted daylight  
# savings time in 1916, Fort William and Port Arthur, having done so  
# already, did not change their clocks.... During the Second World  
# War,... [t]he cities agreed to implement DST during the summer  
# months for the remainder of the war years.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Toronto -5:17:32 - LMT 1895

-5:00 Canada E%sT 1919  
-5:00 Toronto E%sT 1942 Feb 9 2:00s  
-5:00 Canada E%sT 1946  
-5:00 Toronto E%sT 1974  
-5:00 Canada E%sT

Zone America/Thunder\_Bay -5:57:00 - LMT 1895

-6:00 - CST 1910  
-5:00 - EST 1942  
-5:00 Canada E%sT 1970  
-5:00 Mont E%sT 1973  
-5:00 - EST 1974  
-5:00 Canada E%sT

Zone America/Nipigon -5:53:04 - LMT 1895

-5:00 Canada E%sT 1940 Sep 29  
-5:00 1:00 EDT 1942 Feb 9 2:00s  
-5:00 Canada E%sT

Zone America/Rainy\_River -6:18:16 - LMT 1895

-6:00 Canada C%sT 1940 Sep 29  
-6:00 1:00 CDT 1942 Feb 9 2:00s  
-6:00 Canada C%sT

Zone America/Atikokan -6:06:28

- LMT 1895  
-6:00 Canada C%sT 1940 Sep 29  
-6:00 1:00 CDT 1942 Feb 9 2:00s  
-6:00 Canada C%sT 1945 Sep 30 2:00  
-5:00 - EST

# Manitoba

# From Rob Douglas (2006-04-06):

# the old Manitoba Time Act - as amended by Bill 2, assented to  
# March 27, 1987 ... said ...  
# "between two o'clock Central Standard Time in the morning of  
# the first Sunday of April of each year and two o'clock Central  
# Standard Time in the morning of the last Sunday of October next



# following, one hour in advance of Central Standard Time."...  
# I believe that the English legislation [of the old time act] had =  
# been assented to (March 22, 1967)....  
# Also, as far as I can tell, there was no order-in-council varying  
# the time of Daylight Saving Time for 2005 and so the provisions of  
# the 1987 version would apply - the changeover was at 2:00 Central  
# Standard Time (i.e. not until 3:00 Central Daylight Time).

# From Paul Eggert (2006-04-10):  
# Shanks & Pottenger say Manitoba switched  
# at 02:00 (not 02:00s)  
# starting 1966. Since 02:00s is clearly correct for 1967 on, assume  
# it was also 02:00s in 1966.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Winn 1916 only - Apr 23 0:00 1:00 D  
Rule Winn 1916 only - Sep 17 0:00 0 S  
Rule Winn 1918 only - Apr 14 2:00 1:00 D  
Rule Winn 1918 only - Oct 27 2:00 0 S  
Rule Winn 1937 only - May 16 2:00 1:00 D  
Rule Winn 1937 only - Sep 26 2:00 0 S  
Rule Winn 1942 only - Feb 9 2:00 1:00 W # War  
Rule Winn 1945 only - Aug 14 23:00u 1:00 P # Peace  
Rule Winn 1945 only - Sep lastSun 2:00 0 S  
Rule Winn 1946 only - May 12 2:00 1:00 D  
Rule Winn 1946 only - Oct 13 2:00 0 S  
Rule Winn 1947 1949 - Apr lastSun 2:00 1:00 D  
Rule Winn 1947 1949 - Sep lastSun 2:00 0 S  
Rule Winn 1950 only - May 1 2:00 1:00 D  
Rule Winn 1950 only - Sep 30 2:00 0 S  
Rule Winn 1951 1960 - Apr lastSun 2:00 1:00 D  
Rule Winn 1951 1958 - Sep lastSun 2:00 0 S  
Rule Winn 1959 only - Oct lastSun 2:00 0 S  
Rule Winn 1960 only - Sep lastSun 2:00 0 S  
Rule Winn 1963 only - Apr lastSun 2:00 1:00 D  
Rule Winn 1963 only - Sep 22 2:00 0 S  
Rule Winn 1966 1986 - Apr lastSun 2:00s 1:00 D  
Rule Winn 1966 2005 - Oct lastSun 2:00s 0 S  
Rule Winn 1987 2005 - Apr Sun>=1 2:00s 1:00 D

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone America/Winnipeg -6:28:36 - LMT 1887 Jul 16  
-6:00 Winn C%sT 2006  
-6:00 Canada C%sT

# Saskatchewan

# From Mark Brader (2003-07-26):

# The first actual adoption of DST in Canada was at the municipal  
# level. As the [Toronto] Star put it (1912-06-07), "While people  
# elsewhere have long been talking of legislation to save daylight,  
# the city of Moose Jaw [Saskatchewan] has acted on its own hook."  
# DST in Moose Jaw began on Saturday, 1912-06-01 (no time mentioned:  
# presumably late evening, as below), and would run until "the end of  
# the summer". The discrepancy between municipal time and railroad  
# time was noted.

# From Paul Eggert (2003-07-27):

# Willett (1914-03) notes that DST "has been in operation ... in the  
# City of Moose Jaw, Saskatchewan,  
# for one year."

# From Paul Eggert (2006-03-22):

# Shanks & Pottenger say that since 1970 this region has mostly been as Regina.  
# Some western towns (e.g. Swift Current) switched from MST/MDT to CST in 1972.  
# Other western towns (e.g. Lloydminster) are like Edmonton.  
# Matthews and Vincent (1998) write that Denare Beach and Creighton  
# are like Winnipeg, in violation of Saskatchewan law.

# From W. Jones (1992-11-06):

# The. . . below is based on information I got from our law library, the  
# provincial archives, and the provincial Community Services department.  
# A precise history would require digging through newspaper archives, and  
# since you didn't say what you wanted, I didn't bother.

#

# Saskatchewan is split by a time zone meridian (105W) and over the years  
# the boundary became pretty ragged as communities near it reevaluated  
# their affiliations in one direction or the other. In 1965 a provincial  
# referendum favoured legislating common time practices.

#

# On 15 April

1966 the Time Act (c. T-14, Revised Statutes of  
# Saskatchewan 1978) was proclaimed, and established that the eastern  
# part of Saskatchewan would use CST year round, that districts in  
# northwest Saskatchewan would by default follow CST but could opt to  
# follow Mountain Time rules (thus 1 hour difference in the winter and  
# zero in the summer), and that districts in southwest Saskatchewan would  
# by default follow MT but could opt to follow CST.

#

# It took a few years for the dust to settle (I know one story of a town  
# on one time zone having its school in another, such that a mom had to  
# serve her family lunch in two shifts), but presently it seems that only  
# a few towns on the border with Alberta (e.g. Lloydminster) follow MT  
# rules any more; all other districts appear to have used CST year round  
# since sometime in the 1960s.

# From Chris Walton (2006-06-26):  
# The Saskatchewan time act which was last updated in 1996 is about 30 pages  
# long and rather painful to read.  
#  
<http://www.qp.gov.sk.ca/documents/English/Statutes/Statutes/T14.pdf>

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Regina 1918 only - Apr 14 2:00 1:00 D  
Rule Regina 1918 only - Oct 27 2:00 0 S  
Rule Regina 1930 1934 - May Sun>=1 0:00 1:00 D  
Rule Regina 1930 1934 - Oct Sun>=1 0:00 0 S  
Rule Regina 1937 1941 - Apr Sun>=8 0:00 1:00 D  
Rule Regina 1937 only - Oct Sun>=8 0:00 0 S  
Rule Regina 1938 only - Oct Sun>=1 0:00 0 S  
Rule Regina 1939 1941 - Oct Sun>=8 0:00 0 S  
Rule Regina 1942 only - Feb 9 2:00 1:00 W # War  
Rule Regina 1945 only - Aug 14 23:00u 1:00 P # Peace  
Rule Regina 1945 only - Sep lastSun 2:00 0 S  
Rule Regina 1946 only - Apr Sun>=8 2:00 1:00 D  
Rule Regina 1946 only - Oct Sun>=8 2:00 0 S  
Rule Regina 1947 1957 - Apr lastSun 2:00 1:00 D  
Rule Regina 1947 1957 - Sep lastSun 2:00 0 S  
Rule Regina 1959 only - Apr lastSun 2:00 1:00 D  
Rule Regina 1959 only - Oct lastSun 2:00 0 S

#

Rule Swift 1957 only - Apr lastSun 2:00 1:00 D  
Rule Swift 1957 only - Oct lastSun 2:00 0 S  
Rule Swift 1959 1961 - Apr lastSun 2:00 1:00 D  
Rule Swift 1959 only - Oct lastSun 2:00 0 S  
Rule Swift 1960 1961 - Sep lastSun 2:00 0 S

#

Zone NAME GMTTOFF RULES FORMAT [UNTIL]

Zone America/Regina -6:58:36 - LMT 1905 Sep  
-7:00 Regina M%sT 1960 Apr lastSun 2:00  
-6:00 - CST

Zone America/Swift\_Current -7:11:20 - LMT 1905 Sep  
-7:00 Canada M%sT 1946 Apr lastSun 2:00  
-7:00 Regina M%sT 1950  
-7:00 Swift M%sT 1972 Apr lastSun 2:00  
-6:00 - CST

# Alberta

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Edm 1918 1919 - Apr Sun>=8 2:00 1:00 D  
Rule Edm 1918 only - Oct 27 2:00 0 S

Rule Edm 1919 only - May 27 2:00 0 S  
Rule Edm 1920 1923 - Apr lastSun 2:00 1:00 D  
Rule Edm 1920 only - Oct lastSun 2:00 0 S  
Rule Edm 1921 1923 - Sep lastSun 2:00 0 S  
Rule Edm 1942 only - Feb 9 2:00 1:00 W # War  
Rule Edm 1945 only - Aug 14 23:00u 1:00 P # Peace  
Rule Edm 1945 only - Sep lastSun 2:00 0 S  
Rule Edm 1947 only - Apr lastSun 2:00 1:00 D  
Rule Edm 1947 only - Sep lastSun 2:00 0 S  
Rule Edm 1967 only - Apr lastSun 2:00 1:00 D  
Rule Edm 1967 only - Oct lastSun 2:00 0 S  
Rule Edm 1969 only - Apr lastSun 2:00 1:00 D  
Rule Edm 1969 only - Oct lastSun 2:00 0 S  
Rule Edm 1972 1986 - Apr lastSun 2:00 1:00 D  
Rule Edm 1972 2006 - Oct lastSun 2:00 0 S

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Edmonton -7:33:52 - LMT 1906 Sep

-7:00 Edm M%sT 1987

-7:00 Canada M%sT

# British Columbia

# From Paul Eggert (2006-03-22):

# Shanks & Pottenger write that since 1970 most of this region has  
# been like Vancouver.

# Dawson Creek uses MST. Much of east BC is like Edmonton.

# Matthews and Vincent (1998) write that Creston is like Dawson Creek.

# It seems though that (re: Creston) is not entirely correct:

# From Chris Walton (2011-12-01):

# There are two areas within the Canadian province of British Columbia  
# that do not currently observe daylight saving:

# a) The Creston Valley (includes the town of Creston and surrounding area)

# b) The eastern half of the Peace River Regional District

# (includes

the cities of Dawson Creek and Fort St. John)

# Earlier this year I stumbled across a detailed article about the time

# keeping history of Creston; it was written by Tammy Hardwick who is the

# manager of the Creston & District Museum. The article was written in May 2009.

# <a href="http://www.ilovecreston.com/?p=articles&t=spec&ar=260">

# http://www.ilovecreston.com/?p=articles&t=spec&ar=260

# </a>

# According to the article, Creston has not changed its clocks since June 1918.

# i.e. Creston has been stuck on UTC-7 for 93 years.

# Dawson Creek, on the other hand, changed its clocks as recently as April 1972.

# Unfortunately the exact date for the time change in June 1918 remains  
# unknown and will be difficult to ascertain. I e-mailed Tammy a few months  
# ago to ask if Sunday June 2 was a reasonable guess. She said it was just  
# as plausible as any other date (in June). She also said that after writing the  
# article she had discovered another time change in 1916; this is  
# the subject  
# of another article which she wrote in October 2010.  
# [http://www.creston.museum.bc.ca/index.php?module=comments&uop=view\\_comment&cm+id=56](http://www.creston.museum.bc.ca/index.php?module=comments&uop=view_comment&cm+id=56)  
# [http://www.creston.museum.bc.ca/index.php?module=comments&uop=view\\_comment&cm+id=56](http://www.creston.museum.bc.ca/index.php?module=comments&uop=view_comment&cm+id=56)  
# </a>

# Here is a summary of the three clock change events in Creston's history:

# 1. 1884 or 1885: adoption of Mountain Standard Time (GMT-7)  
# Exact date unknown

# 2. Oct 1916: switch to Pacific Standard Time (GMT-8)  
# Exact date in October unknown; Sunday October 1 is a reasonable guess.

# 3. June 1918: switch to Pacific Daylight Time (GMT-7)  
# Exact date in June unknown; Sunday June 2 is a reasonable guess.

# note#1:  
# On Oct 27/1918 when daylight saving ended in the rest of Canada,  
# Creston did not change its clocks.

# note#2:  
# During WWII when the Federal Government legislated a mandatory clock change,  
# Creston did not oblige.

# note#3:  
# There is no guarantee that Creston will remain on Mountain Standard Time  
# (UTC-7) forever.  
#  
# The subject was debated at least once this year by the town Council.  
# [http://www.bclocalnews.com/kootenay\\_rockies/crestonvalleyadvance/news/116760809.html](http://www.bclocalnews.com/kootenay_rockies/crestonvalleyadvance/news/116760809.html)  
# [http://www.bclocalnews.com/kootenay\\_rockies/crestonvalleyadvance/news/116760809.html](http://www.bclocalnews.com/kootenay_rockies/crestonvalleyadvance/news/116760809.html)  
# </a>

# During a period WWII, summer time (Daylight saying) was mandatory in Canada.  
# In Creston, that was handled by shifting the area to PST (-8:00) then applying  
# summer time to cause the offset to be -7:00, the same as it had been before  
# the change. It can be argued that the timezone abbreviation during this  
# period should be PDT rather than MST, but that doesn't seem important enough  
# (to anyone) to further complicate the rules.

# The transition dates (and times) are guesses.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Vanc 1918 only - Apr 14 2:00 1:00 D  
Rule Vanc 1918 only - Oct 27 2:00 0 S  
Rule Vanc 1942 only - Feb 9 2:00 1:00 W # War

Rule Vanc 1945 only - Aug 14 23:00u 1:00 P # Peace

Rule Vanc 1945 only - Sep 30 2:00 0 S

Rule Vanc 1946 1986 - Apr lastSun 2:00 1:00 D

Rule Vanc 1946 only - Oct 13 2:00 0 S

Rule Vanc 1947 1961 - Sep lastSun 2:00 0 S

Rule Vanc 1962 2006 - Oct lastSun 2:00 0 S

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Vancouver -8:12:28 - LMT 1884

-8:00 Vanc P%ST 1987

-8:00 Canada P%ST

Zone America/Dawson\_Creek -8:00:56 - LMT 1884

-8:00 Canada P%ST 1947

-8:00 Vanc P%ST 1972 Aug 30 2:00

-7:00 - MST

Zone America/Creston -7:46:04 - LMT 1884

-7:00 - MST 1916 Oct 1

-8:00 - PST 1918 Jun 2

-7:00 - MST

# Northwest Territories, Nunavut, Yukon

# From Paul Eggert (2006-03-22):

# Dawson switched to PST in 1973. Inuvik switched to MST in 1979.

# Mathew Englander (1996-10-07) gives the following refs:

# \* 1967. Paragraph 28(34)(g) of the Interpretation Act, S.C. 1967-68,

# c. 7 defines Yukon standard time as UTC-9. This is still valid;

# see Interpretation Act, R.S.C. 1985, c. I-21, s. 35(1).

# \* C.O. 1973/214 switched Yukon to PST on 1973-10-28 00:00.

# \*

O.I.C. 1980/02 established DST.

# \* O.I.C. 1987/056 changed DST to Apr firstSun 2:00 to Oct lastSun 2:00.

# Shanks & Pottenger say Yukon's 1973-10-28 switch was at 2:00; go

# with Englander.

# From Chris Walton (2006-06-26):

# Here is a link to the old daylight saving portion of the interpretation

# act which was last updated in 1987:

# [http://www.gov.yk.ca/legislation/regs/oic1987\\_056.pdf](http://www.gov.yk.ca/legislation/regs/oic1987_056.pdf)

# From Rives McDow (1999-09-04):

# Nunavut ... moved ... to incorporate the whole territory into one time zone.

# [http://www.nunatsiaq.com/nunavut/nvt90903\\_13.html](http://www.nunatsiaq.com/nunavut/nvt90903_13.html)

# Nunavut moves to single time zone Oct. 31

# [/a>](#)

#

# From Antoine Leca (1999-09-06):

# We then need to create a new timezone for the Kitikmeot region of Nunavut

# to differentiate it from the Yellowknife region.

# From Paul Eggert (1999-09-20):  
# <a href="http://www.nunavut.com/basicfacts/english/basicfacts\_1territory.html">  
# Basic Facts: The New Territory  
# </a> (1999) reports that Pangnirtung operates on eastern time,  
#  
# and that Coral Harbour does not observe DST. We don't know when  
# Pangnirtung switched to eastern time; we'll guess 1995.

# From Rives McDow (1999-11-08):  
# On October 31, when the rest of Nunavut went to Central time,  
# Pangnirtung wobbled. Here is the result of their wobble:  
#  
# The following businesses and organizations in Pangnirtung use Central Time:  
#  
# First Air, Power Corp, Nunavut Construction, Health Center, RCMP,  
# Eastern Arctic National Parks, A & D Specialist  
#  
# The following businesses and organizations in Pangnirtung use Eastern Time:  
#  
# Hamlet office, All other businesses, Both schools, Airport operator  
#  
# This has made for an interesting situation there, which warranted the news.  
# No one there that I spoke with seems concerned, or has plans to  
# change the local methods of keeping time, as it evidently does not  
# really interfere with any activities or make things difficult locally.  
# They plan to celebrate New Year's turn-over twice, one hour apart,  
# so  
# it appears that the situation will last at least that long.  
# The Nunavut Intergovernmental Affairs hopes that they will "come to  
# their senses", but the locals evidently don't see any problem with  
# the current state of affairs.

# From Michaela Rodrigue, writing in the  
# <a href="http://www.nunatsiaq.com/archives/nunavut991130/nvt91119\_17.html">  
# Nunatsiaq News (1999-11-19)</a>:  
# Clyde River, Pangnirtung and Sanikiluaq now operate with two time zones,  
# central - or Nunavut time - for government offices, and eastern time  
# for municipal offices and schools.... Igloolik [was similar but then]  
# made the switch to central time on Saturday, Nov. 6.

# From Paul Eggert (2000-10-02):  
# Matthews and Vincent (1998) say the following, but we lack histories  
# for these potential new Zones.  
#  
# The Canadian Forces station at Alert uses Eastern Time while the  
# handful of residents at the Eureka weather station [in the Central  
# zone] skip daylight savings. Baffin Island, which is crossed

by the

# Central, Eastern and Atlantic Time zones only uses Eastern Time.  
# Gjoa Haven, Taloyoak and Pelly Bay all use Mountain instead of  
# Central Time and Southampton Island [in the Central zone] is not  
# required to use daylight savings.

# From

# <a href="http://www.nunatsiaq.com/archives/nunavut001130/nvt21110\_02.html">

# Nunavut now has two time zones

# </a> (2000-11-10):

# The Nunavut government would allow its employees in Kugluktuk and  
# Cambridge Bay to operate on central time year-round, putting them  
# one hour behind the rest of Nunavut for six months during the winter.  
# At the end of October the two communities had rebelled against  
# Nunavut's unified time zone, refusing to shift to eastern time with  
# the rest of the territory for the winter. Cambridge Bay remained on  
# central time, while Kugluktuk, even farther west, reverted to  
# mountain time, which they had used before the advent of Nunavut's  
# unified time zone in 1999.

#

# From Rives McDow (2001-01-20), quoting  
the Nunavut government:

# The preceding decision came into effect at midnight, Saturday Nov 4, 2000.

# From Paul Eggert (2000-12-04):

# Let's just keep track of the official times for now.

# From Rives McDow (2001-03-07):

# The premier of Nunavut has issued a ministerial statement advising  
# that effective 2001-04-01, the territory of Nunavut will revert  
# back to three time zones (mountain, central, and eastern). Of the  
# cities in Nunavut, Coral Harbor is the only one that I know of that  
# has said it will not observe dst, staying on EST year round. I'm  
# checking for more info, and will get back to you if I come up with  
# more.

# [Also see <[http://www.nunatsiaq.com/nunavut/nvt10309\\_06.html](http://www.nunatsiaq.com/nunavut/nvt10309_06.html)> (2001-03-09).]

# From Gwillim Law (2005-05-21):

# According to maps at

# [http://inms-ienm.nrc-cnrc.gc.ca/images/time\\_services/TZ01SWE.jpg](http://inms-ienm.nrc-cnrc.gc.ca/images/time_services/TZ01SWE.jpg)

# [http://inms-ienm.nrc-cnrc.gc.ca/images/time\\_services/TZ01SSE.jpg](http://inms-ienm.nrc-cnrc.gc.ca/images/time_services/TZ01SSE.jpg)

# (both dated 2003), and

# <http://www.canadiangeographic.ca/Magazine/SO98/geomap.asp>

#

(from a 1998 Canadian Geographic article), the de facto and de jure time  
# for Southampton Island (at the north end of Hudson Bay) is UTC-5 all year  
# round. Using Google, it's easy to find other websites that confirm this.  
# I wasn't able to find how far back this time regimen goes, but since it



# predates the creation of Nunavut, it probably goes back many years....  
# The Inuktitut name of Coral Harbour is Sallit, but it's rarely used.  
#  
# From Paul Eggert (2005-07-26):  
# For lack of better information, assume that Southampton Island observed  
# daylight saving only during wartime.

# From Chris Walton (2007-03-01):  
# ... the community of Resolute (located on Cornwallis Island in  
# Nunavut) moved from Central Time to Eastern Time last November.  
# Basically the community did not change its clocks at the end of  
# daylight saving....  
# [http://www.nnsl.com/frames/newspapers/2006-11/nov13\\_06none.html](http://www.nnsl.com/frames/newspapers/2006-11/nov13_06none.html)

# From Chris Walton (2011-03-21):  
# Back in 2007 I initiated the creation of a new "zone  
# file" for Resolute  
# Bay. Resolute Bay is a small community located about 900km north of  
# the Arctic Circle. The zone file was required because Resolute Bay had  
# decided to use UTC-5 instead of UTC-6 for the winter of 2006-2007.  
#  
# According to new information which I received last week, Resolute Bay  
# went back to using UTC-6 in the winter of 2007-2008...  
#  
# On March 11/2007 most of Canada went onto daylight saving. On March  
# 14/2007 I phoned the Resolute Bay hamlet office to do a "time check." I  
# talked to somebody that was both knowledgeable and helpful. I was able  
# to confirm that Resolute Bay was still operating on UTC-5. It was  
# explained to me that Resolute Bay had been on the Eastern Time zone  
# (EST) in the winter, and was now back on the Central Time zone (CDT).  
# i.e. the time zone had changed twice in the last year but the clocks  
# had not moved. The residents had to know which time zone they were in  
# so they could follow the correct TV schedule...  
#  
# On Nov 02/2008  
# most of Canada went onto standard time. On Nov 03/2008 I  
# phoned the Resolute Bay hamlet office...[D]ue to the challenging nature  
# of the phone call, I decided to seek out an alternate source of  
# information. I found an e-mail address for somebody by the name of  
# Stephanie Adams whose job was listed as "Inns North Support Officer for  
# Arctic Co-operatives." I was under the impression that Stephanie lived  
# and worked in Resolute Bay...  
#  
# On March 14/2011 I phoned the hamlet office again. I was told that  
# Resolute Bay had been using Central Standard Time over the winter of  
# 2010-2011 and that the clocks had therefore been moved one hour ahead  
# on March 13/2011. The person I talked to was aware that Resolute Bay  
# had previously experimented with Eastern Standard Time but he could not

```

# tell me when the practice had stopped.
#
# On March 17/2011 I searched the Web to find an e-mail address of
# somebody that might be able to tell me exactly when Resolute Bay went
# off Eastern
Standard Time. I stumbled on the name "Aziz Kheraj." Aziz
# used to be the mayor of Resolute Bay and he apparently owns half the
# businesses including "South Camp Inn." This website has some info on
# Aziz:
# <a href="http://www.uphere.ca/node/493">
# http://www.uphere.ca/node/493
# </a>
#
# I sent Aziz an e-mail asking when Resolute Bay had stopped using
# Eastern Standard Time.
#
# Aziz responded quickly with this: "hi, The time was not changed for the
# 1 year only, the following year, the community went back to the old way
# of "spring ahead-fall behind" currently we are zulu plus 5 hrs and in
# the winter Zulu plus 6 hrs"
#
# This of course conflicted with everything I had ascertained in November 2008.
#
# I sent Aziz a copy of my 2008 e-mail exchange with Stephanie. Aziz
# responded with this: "Hi, Stephanie lives in Winnipeg. I live here, You
# may want to check with the weather office in Resolute Bay or do a
# search on the weather through Env. Canada. web site"
#
# If I
had realized the Stephanie did not live in Resolute Bay I would
# never have contacted her. I now believe that all the information I
# obtained in November 2008 should be ignored...
# I apologize for reporting incorrect information in 2008.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule NT_YK 1918 only - Apr 14 2:00 1:00 D
Rule NT_YK 1918 only - Oct 27 2:00 0 S
Rule NT_YK 1919 only - May 25 2:00 1:00 D
Rule NT_YK 1919 only - Nov 1 0:00 0 S
Rule NT_YK 1942 only - Feb 9 2:00 1:00 W # War
Rule NT_YK 1945 only - Aug 14 23:00u 1:00 P # Peace
Rule NT_YK 1945 only - Sep 30 2:00 0 S
Rule NT_YK 1965 only - Apr lastSun 0:00 2:00 DD
Rule NT_YK 1965 only - Oct lastSun 2:00 0 S
Rule NT_YK 1980 1986 - Apr lastSun 2:00 1:00 D
Rule NT_YK 1980 2006 - Oct lastSun 2:00 0 S
Rule NT_YK 1987 2006 - Apr Sun>=1 2:00 1:00 D
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]

```

# aka Panniqtuuq

Zone America/Pangnirtung 0 - zzz 1921 # trading post est.

-4:00 NT\_YK A%sT 1995 Apr Sun>=1 2:00

-5:00 Canada E%sT 1999

Oct 31 2:00

-6:00 Canada C%sT 2000 Oct 29 2:00

-5:00 Canada E%sT

# formerly Frobisher Bay

Zone America/Iqaluit 0 - zzz 1942 Aug # Frobisher Bay est.

-5:00 NT\_YK E%sT 1999 Oct 31 2:00

-6:00 Canada C%sT 2000 Oct 29 2:00

-5:00 Canada E%sT

# aka Qausuittuq

Zone America/Resolute 0 - zzz 1947 Aug 31 # Resolute founded

-6:00 NT\_YK C%sT 2000 Oct 29 2:00

-5:00 - EST 2001 Apr 1 3:00

-6:00 Canada C%sT 2006 Oct 29 2:00

-5:00 - EST 2007 Mar 11 3:00

-6:00 Canada C%sT

# aka Kangiqiniq

Zone America/Rankin\_Inlet 0 - zzz 1957 # Rankin Inlet founded

-6:00 NT\_YK C%sT 2000 Oct 29 2:00

-5:00 - EST 2001 Apr 1 3:00

-6:00 Canada C%sT

# aka Iqaluktuuttiaq

Zone America/Cambridge\_Bay 0 - zzz 1920 # trading post est.?

-7:00 NT\_YK M%sT 1999 Oct 31 2:00

-6:00 Canada C%sT 2000 Oct 29 2:00

-5:00 - EST 2000 Nov 5 0:00

-6:00 - CST 2001 Apr 1 3:00

-7:00 Canada M%sT

Zone America/Yellowknife 0 - zzz 1935 # Yellowknife founded?

-7:00 NT\_YK M%sT 1980

-7:00 Canada M%sT

Zone

America/Inuvik 0 - zzz 1953 # Inuvik founded

-8:00 NT\_YK P%sT 1979 Apr lastSun 2:00

-7:00 NT\_YK M%sT 1980

-7:00 Canada M%sT

Zone America/Whitehorse -9:00:12 - LMT 1900 Aug 20

-9:00 NT\_YK Y%sT 1966 Jul 1 2:00

-8:00 NT\_YK P%sT 1980

-8:00 Canada P%sT

Zone America/Dawson -9:17:40 - LMT 1900 Aug 20

-9:00 NT\_YK Y%sT 1973 Oct 28 0:00

-8:00 NT\_YK P%sT 1980

-8:00 Canada P%sT

#####

# Mexico

# From Paul Eggert (2001-03-05):

# The Investigation and Analysis Service of the

# Mexican Library of Congress (MLoC) has published a

# <http://www.cddhcu.gob.mx/bibliot/publica/inveyana/polisoc/horver/>

# history of Mexican local time (in Spanish)

# [/](#).

#

# Here are the discrepancies between Shanks & Pottenger (S&P) and the MLoC.

# (In all cases we go with the MLoC.)

# S&P report that Baja was at -8:00 in 1922/1923.

# S&P say the 1930 transition in Baja was 1930-11-16.

# S&P report

no DST during summer 1931.

# S&P report a transition at 1932-03-30 23:00, not 1932-04-01.

# From Gwillim Law (2001-02-20):

# There are some other discrepancies between the Decrees page and the

# tz database. I think they can best be explained by supposing that

# the researchers who prepared the Decrees page failed to find some of

# the relevant documents.

# From Alan Perry (1996-02-15):

# A guy from our Mexico subsidiary finally found the Presidential Decree

# outlining the timezone changes in Mexico.

#

# ----- Begin Forwarded Message -----

#

# I finally got my hands on the Official Presidential Decree that sets up the

# rules for the DST changes. The rules are:

#

# 1. The country is divided in 3 timezones:

# - Baja California Norte (the Mexico/BajaNorte TZ)

# - Baja California Sur, Nayarit, Sinaloa and Sonora (the Mexico/BajaSur TZ)

# - The rest of the country (the Mexico/General TZ)

#

# 2. From the first Sunday in April at 2:00 AM to the last Sunday in

October

# at 2:00 AM, the times in each zone are as follows:

# BajaNorte: GMT+7

# BajaSur: GMT+6

# General: GMT+5

#

# 3. The rest of the year, the times are as follows:

# BajaNorte: GMT+8  
# BajaSur: GMT+7  
# General: GMT+6  
#  
# The Decree was published in Mexico's Official Newspaper on January 4th.  
#  
# ----- End Forwarded Message -----  
# From Paul Eggert (1996-06-12):  
# For an English translation of the decree, see  
# <a href="http://mexico-travel.com/extra/timezone\_eng.html">  
# ``Diario Oficial: Time Zone Changeover" (1996-01-04).  
# </a>  
  
# From Rives McDow (1998-10-08):  
# The State of Quintana Roo has reverted back to central STD and DST times  
# (i.e. UTC -0600 and -0500 as of 1998-08-02).  
  
# From Rives McDow (2000-01-10):  
# Effective April 4, 1999 at 2:00 AM local time, Sonora changed to the time  
# zone 5 hours from the International Date Line, and will not observe daylight  
# savings time so as to stay on the same time zone as the southern  
# part of  
# Arizona year round.  
  
# From Jesper Norgaard, translating  
# <http://www.reforma.com/nacional/articulo/064327/> (2001-01-17):  
# In Oaxaca, the 55,000 teachers from the Section 22 of the National  
# Syndicate of Education Workers, refuse to apply daylight saving each  
# year, so that the more than 10,000 schools work at normal hour the  
# whole year.  
  
# From Gwillim Law (2001-01-19):  
# <http://www.reforma.com/negocios\_y\_dinero/articulo/064481/> ... says  
# (translated):...  
# January 17, 2000 - The Energy Secretary, Ernesto Martens, announced  
# that Summer Time will be reduced from seven to five months, starting  
# this year....  
# <http://www.publico.com.mx/scripts/texto3.asp?action=pagina&pag=21&pos=p&secc=naci&date=01/17/2001>  
# [translated], says "summer time will ... take effect on the first Sunday  
# in May, and end on the last Sunday of September.  
  
# From Arthur David Olson (2001-01-25):  
# The 2001-01-24 traditional Washington Post contained the page one  
# story "Timely Issue  
# Divides Mexicans."...  
# http://www.washingtonpost.com/wp-dyn/articles/A37383-2001Jan23.html  
# ... Mexico City Mayor Lopez Obrador "...is threatening to keep  
# Mexico City and its 20 million residents on a different time than

# the rest of the country..." In particular, Lopez Obrador would abolish  
# observation of Daylight Saving Time.

# <a href="http://www.conae.gob.mx/ahorro/decretohorver2001.html#decre">  
# Official statute published by the Energy Department  
# </a> (2001-02-01) shows Baja and Chihuahua as still using US DST rules,  
# and Sonora with no DST. This was reported by Jesper Norgaard (2001-02-03).

# From Paul Eggert (2001-03-03):

#

# <a href="http://www.latimes.com/news/nation/20010303/t000018766.html">

# James F. Smith writes in today's LA Times

# </a>

# \* Sonora will continue to observe standard time.

# \* Last week Mexico City's mayor Andres Manuel Lopez Obrador decreed that

# the Federal District will not adopt DST.

# \* 4 of 16 district leaders announced they'll ignore  
the decree.

# \* The decree does not affect federal-controlled facilities including

# the airport, banks, hospitals, and schools.

#

# For now we'll assume that the Federal District will bow to federal rules.

# From Jesper Norgaard (2001-04-01):

# I found some references to the Mexican application of daylight

# saving, which modifies what I had already sent you, stating earlier

# that a number of northern Mexican states would go on daylight

# saving. The modification reverts this to only cover Baja California

# (Norte), while all other states (except Sonora, who has no daylight

# saving all year) will follow the original decree of president

# Vicente Fox, starting daylight saving May 6, 2001 and ending

# September 30, 2001.

# References: "Diario de Monterrey" <www.diariodemonterrey.com/index.asp>

# Palabra <http://palabra.infosel.com/010331/primera/ppri3101.pdf> (2001-03-31)

# From Reuters (2001-09-04):

# Mexico's Supreme Court on Tuesday declared that daylight savings was

# unconstitutional

# in Mexico City, creating the possibility the

# capital will be in a different time zone from the rest of the nation

# next year.... The Supreme Court's ruling takes effect at 2:00

# a.m. (0800 GMT) on Sept. 30, when Mexico is scheduled to revert to

# standard time. "This is so residents of the Federal District are not

# subject to unexpected time changes," a statement from the court said.

# From Jesper Norgaard Welen (2002-03-12):

# ... consulting my local grocery store(!) and my coworkers, they all insisted

# that a new decision had been made to reinstate US style DST in Mexico....

# [http://www.conae.gob.mx/ahorro/horaver2001\\_m1\\_2002.html](http://www.conae.gob.mx/ahorro/horaver2001_m1_2002.html) (2002-02-20)  
# confirms this. Sonora as usual is the only state where DST is not applied.

# From Steffen Thorsen (2009-12-28):  
#  
# Steffen Thorsen wrote:  
# > Mexico's House of Representatives has approved a proposal for northern  
# > Mexico's border cities to share the same daylight saving schedule as  
# > the United States.  
# Now this has  
# passed both the Congress and the Senate, so starting from  
# 2010, some border regions will be the same:  
# <http://www.signonsandiego.com/news/2009/dec/28/clocks-will-match-both-sides-border/>  
# <http://www.signonsandiego.com/news/2009/dec/28/clocks-will-match-both-sides-border/>  
# <http://www.signonsandiego.com/news/2009/dec/28/clocks-will-match-both-sides-border/>  
# [http://www.elmananarey.com/diario/noticia/nacional/noticias/empatan\\_horario\\_de\\_frontera\\_con\\_eu/621939](http://www.elmananarey.com/diario/noticia/nacional/noticias/empatan_horario_de_frontera_con_eu/621939)  
# [http://www.elmananarey.com/diario/noticia/nacional/noticias/empatan\\_horario\\_de\\_frontera\\_con\\_eu/621939](http://www.elmananarey.com/diario/noticia/nacional/noticias/empatan_horario_de_frontera_con_eu/621939)  
# [http://www.elmananarey.com/diario/noticia/nacional/noticias/empatan\\_horario\\_de\\_frontera\\_con\\_eu/621939](http://www.elmananarey.com/diario/noticia/nacional/noticias/empatan_horario_de_frontera_con_eu/621939)  
# (Spanish)  
#  
# Could not find the new law text, but the proposed law text changes are here:  
# <http://gaceta.diputados.gob.mx/Gaceta/61/2009/dic/20091210-V.pdf>  
# <http://gaceta.diputados.gob.mx/Gaceta/61/2009/dic/20091210-V.pdf>  
# <http://gaceta.diputados.gob.mx/Gaceta/61/2009/dic/20091210-V.pdf>  
# (Gaceta Parlamentaria)  
#  
# There is also a list of the votes here:  
# <http://gaceta.diputados.gob.mx/Gaceta/61/2009/dic/V2-101209.html>  
# <http://gaceta.diputados.gob.mx/Gaceta/61/2009/dic/V2-101209.html>  
# <http://gaceta.diputados.gob.mx/Gaceta/61/2009/dic/V2-101209.html>  
#  
# Our page:  
#  
# <http://www.timeanddate.com/news/time/north-mexico-dst-change.html>  
# <http://www.timeanddate.com/news/time/north-mexico-dst-change.html>  
# <http://www.timeanddate.com/news/time/north-mexico-dst-change.html>

# From Arthur David Olson (2010-01-20):  
# The page  
# [http://dof.gob.mx/nota\\_detalle.php?codigo=5127480&fecha=06/01/2010](http://dof.gob.mx/nota_detalle.php?codigo=5127480&fecha=06/01/2010)  
# [http://dof.gob.mx/nota\\_detalle.php?codigo=5127480&fecha=06/01/2010](http://dof.gob.mx/nota_detalle.php?codigo=5127480&fecha=06/01/2010)  
# [http://dof.gob.mx/nota\\_detalle.php?codigo=5127480&fecha=06/01/2010](http://dof.gob.mx/nota_detalle.php?codigo=5127480&fecha=06/01/2010)  
# includes this text:  
# En los municipios fronterizos de Tijuana y Mexicali en Baja California;  
# Juarez y Ojinaga en Chihuahua; Acuña y Piedras Negras en Coahuila;  
# Anahuac en Nuevo León; y Nuevo Laredo, Reynosa y Matamoros en

# Tamaulipas, la aplicaci&oacute;n de este horario estacional surtir&aacute; efecto  
# desde las dos horas del segundo domingo de marzo y concluir&aacute; a las dos  
# horas del primer domingo de noviembre.  
# En los municipios fronterizos que se encuentren ubicados en la franja  
# frontera norte en el territorio comprendido entre la l&iacute;nea  
# internacional y la l&iacute;nea  
# paralela ubicada a una distancia de veinte  
# kil&oacute;metros, as&iacute; como la Ciudad de Ensenada, Baja California, hacia el  
# interior del pa&iacute;s, la aplicaci&oacute;n de este horario estacional surtir&aacute;  
# efecto desde las dos horas del segundo domingo de marzo y concluir&aacute; a  
# las dos horas del primer domingo de noviembre.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Mexico 1939 only - Feb 5 0:00 1:00 D

Rule Mexico 1939 only - Jun 25 0:00 0 S

Rule Mexico 1940 only - Dec 9 0:00 1:00 D

Rule Mexico 1941 only - Apr 1 0:00 0 S

Rule Mexico 1943 only - Dec 16 0:00 1:00 W # War

Rule Mexico 1944 only - May 1 0:00 0 S

Rule Mexico 1950 only - Feb 12 0:00 1:00 D

Rule Mexico 1950 only - Jul 30 0:00 0 S

Rule Mexico 1996 2000 - Apr Sun>=1 2:00 1:00 D

Rule Mexico 1996 2000 - Oct lastSun 2:00 0 S

Rule Mexico 2001 only - May Sun>=1 2:00 1:00 D

Rule Mexico 2001 only - Sep lastSun 2:00 0 S

Rule Mexico 2002 max - Apr Sun>=1 2:00 1:00 D

Rule Mexico 2002 max - Oct lastSun 2:00 0 S

#

Zone NAME GMTTOFF RULES FORMAT [UNTIL]

# Quintana Roo

Zone America/Cancun -5:47:04 - LMT 1922 Jan 1 0:12:56

-6:00 - CST 1981 Dec 23

-5:00 Mexico E%sT 1998 Aug 2 2:00

-6:00 Mexico C%sT

# Campeche, Yucatan

Zone America/Merida -5:58:28 - LMT 1922 Jan 1 0:01:32

-6:00 - CST 1981 Dec 23

-5:00 - EST 1982 Dec 2

-6:00 Mexico C%sT

# Coahuila, Durango, Nuevo Leon, Tamaulipas (near US border)

Zone America/Matamoros -6:40:00 - LMT 1921 Dec 31 23:20:00

-6:00 - CST 1988

-6:00 US C%sT 1989

-6:00 Mexico C%sT 2010

-6:00 US C%sT

# Coahuila, Durango, Nuevo Leon, Tamaulipas (away from US border)

Zone America/Monterrey -6:41:16 - LMT 1921 Dec 31 23:18:44

-6:00 - CST 1988



-6:00 US C%sT 1989  
-6:00 Mexico C%sT  
# Central Mexico  
Zone America/Mexico\_City -6:36:36 - LMT 1922 Jan 1 0:23:24  
-7:00 - MST 1927 Jun 10 23:00  
-6:00 - CST 1930 Nov 15  
-7:00 - MST 1931 May 1 23:00  
-6:00 - CST 1931 Oct  
-7:00 - MST 1932 Apr 1  
-6:00 Mexico C%sT 2001 Sep  
30 02:00  
-6:00 - CST 2002 Feb 20  
-6:00 Mexico C%sT  
# Chihuahua (near US border)  
Zone America/Ojinaga -6:57:40 - LMT 1922 Jan 1 0:02:20  
-7:00 - MST 1927 Jun 10 23:00  
-6:00 - CST 1930 Nov 15  
-7:00 - MST 1931 May 1 23:00  
-6:00 - CST 1931 Oct  
-7:00 - MST 1932 Apr 1  
-6:00 - CST 1996  
-6:00 Mexico C%sT 1998  
-6:00 - CST 1998 Apr Sun>=1 3:00  
-7:00 Mexico M%sT 2010  
-7:00 US M%sT  
# Chihuahua (away from US border)  
Zone America/Chihuahua -7:04:20 - LMT 1921 Dec 31 23:55:40  
-7:00 - MST 1927 Jun 10 23:00  
-6:00 - CST 1930 Nov 15  
-7:00 - MST 1931 May 1 23:00  
-6:00 - CST 1931 Oct  
-7:00 - MST 1932 Apr 1  
-6:00 - CST 1996  
-6:00 Mexico C%sT 1998  
-6:00 - CST 1998 Apr Sun>=1 3:00  
-7:00 Mexico M%sT  
# Sonora  
Zone America/Hermosillo -7:23:52 - LMT 1921 Dec 31 23:36:08  
-7:00 - MST 1927 Jun 10 23:00  
-6:00 - CST 1930 Nov 15  
-7:00 - MST 1931 May 1 23:00  
-6:00 - CST 1931 Oct  
-7:00 - MST 1932 Apr 1  
-6:00 - CST 1942 Apr 24  
-7:00 - MST 1949  
Jan 14  
-8:00 - PST 1970  
-7:00 Mexico M%sT 1999

-7:00 - MST

```
# From Alexander Krivenyshev (2010-04-21):
# According to news, Bahía de Banderas (Mexican state of Nayarit)
# changed time zone UTC-7 to new time zone UTC-6 on April 4, 2010 (to
# share the same time zone as nearby city Puerto Vallarta, Jalisco).
#
# (Spanish)
# Bahía de Banderas homologa su horario al del centro del
# país, a partir de este domingo
# <a href="http://www.nayarit.gob.mx/notes.asp?id=20748">
# http://www.nayarit.gob.mx/notes.asp?id=20748
# </a>
#
# Bahía de Banderas homologa su horario con el del Centro del
# País
# <a
href="http://www.bahiadebanderas.gob.mx/principal/index.php?option=com_content&view=article&id=261:bahia-
de-banderas-homologa-su-horario-con-el-del-centro-del-pais&catid=42:comunicacion-social&Itemid=50">
# http://www.bahiadebanderas.gob.mx/principal/index.php?option=com_content&view=article&id=261:bahia-de-
banderas-homologa-su-horario-con-el-del-centro-del-pais&catid=42:comunicacion-social&Itemid=50"
#
# </a>
#
# (English)
# Puerto Vallarta and Bahía de Banderas: One Time Zone
# <a href="http://virtualvallarta.com/puertovallarta/puertovallarta/localnews/2009-12-03-Puerto-Vallarta-and-Bahia-
de-Banderas-One-Time-Zone.shtml">
# http://virtualvallarta.com/puertovallarta/puertovallarta/localnews/2009-12-03-Puerto-Vallarta-and-Bahia-de-
Banderas-One-Time-Zone.shtml
# </a>
#
# or
# <a href="http://www.worldtimezone.com/dst_news/dst_news_mexico08.html">
# http://www.worldtimezone.com/dst_news/dst_news_mexico08.html
# </a>
#
# "Mexico's Senate approved the amendments to the Mexican Schedule System that
# will allow Bahía de Banderas and Puerto Vallarta to share the same time
# zone ..."
# Baja California Sur, Nayarit, Sinaloa

# From Arthur David Olson (2010-05-01):
# Use "Bahia_Banderas" to keep the name to fourteen characters.

Zone America/Mazatlan -7:05:40 - LMT 1921 Dec 31 23:54:20
-7:00 - MST 1927 Jun 10 23:00
-6:00 - CST 1930
```

Nov 15

- 7:00 - MST 1931 May 1 23:00
- 6:00 - CST 1931 Oct
- 7:00 - MST 1932 Apr 1
- 6:00 - CST 1942 Apr 24
- 7:00 - MST 1949 Jan 14
- 8:00 - PST 1970
- 7:00 Mexico M%ST

Zone America/Bahia\_Banderas -7:01:00 - LMT 1921 Dec 31 23:59:00

- 7:00 - MST 1927 Jun 10 23:00
- 6:00 - CST 1930 Nov 15
- 7:00 - MST 1931 May 1 23:00
- 6:00 - CST 1931 Oct
- 7:00 - MST 1932 Apr 1
- 6:00 - CST 1942 Apr 24
- 7:00 - MST 1949 Jan 14
- 8:00 - PST 1970
- 7:00 Mexico M%ST 2010 Apr 4 2:00
- 6:00 Mexico C%ST

# Baja California (near US border)

Zone America/Tijuana -7:48:04 - LMT 1922 Jan 1 0:11:56

- 7:00 - MST 1924
- 8:00 - PST 1927 Jun 10 23:00
- 7:00 - MST 1930 Nov 15
- 8:00 - PST 1931 Apr 1
- 8:00 1:00 PDT 1931 Sep 30
- 8:00 - PST 1942 Apr 24
- 8:00 1:00 PWT 1945 Aug 14 23:00u
- 8:00 1:00 PPT 1945 Nov 12 # Peace
- 8:00 - PST 1948 Apr 5
- 8:00 1:00 PDT 1949 Jan 14
- 8:00 - PST 1954
- 8:00 CA P%ST 1961
- 8:00 - PST 1976
- 8:00 US P%ST 1996
- 8:00 Mexico P%ST 2001
- 8:00 US P%ST 2002

Feb 20

- 8:00 Mexico P%ST 2010
- 8:00 US P%ST

# Baja California (away from US border)

Zone America/Santa\_Isabel -7:39:28 - LMT 1922 Jan 1 0:20:32

- 7:00 - MST 1924
- 8:00 - PST 1927 Jun 10 23:00
- 7:00 - MST 1930 Nov 15
- 8:00 - PST 1931 Apr 1

-8:00 1:00 PDT 1931 Sep 30  
-8:00 - PST 1942 Apr 24  
-8:00 1:00 PWT 1945 Aug 14 23:00u  
-8:00 1:00 PPT 1945 Nov 12 # Peace  
-8:00 - PST 1948 Apr 5  
-8:00 1:00 PDT 1949 Jan 14  
-8:00 - PST 1954  
-8:00 CA P%ST 1961  
-8:00 - PST 1976  
-8:00 US P%ST 1996  
-8:00 Mexico P%ST 2001  
-8:00 US P%ST 2002 Feb 20  
-8:00 Mexico P%ST

# From Paul Eggert (2006-03-22):

# Formerly there was an America/Ensenada zone, which differed from  
# America/Tijuana only in that it did not observe DST from 1976  
# through 1995. This was as per Shanks (1999). But Shanks & Pottenger say  
# Ensenada did not observe DST from 1948 through 1975. Guy Harris reports  
# that the  
# 1987 OAG says "Only Ensenada, Mexicale, San Felipe and  
# Tijuana observe DST," which agrees with Shanks & Pottenger but implies that  
# DST-observance was a town-by-town matter back then. This concerns  
# data after 1970 so most likely there should be at least one Zone  
# other than America/Tijuana for Baja, but it's not clear yet what its  
# name or contents should be.  
#  
# Revillagigedo Is  
# no information

#####

# Anguilla  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone America/Anguilla -4:12:16 - LMT 1912 Mar 2  
-4:00 - AST

# Antigua and Barbuda  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone America/Antigua -4:07:12 - LMT 1912 Mar 2  
-5:00 - EST 1951  
-4:00 - AST

# Bahamas  
#

# For 1899 Milne gives -5:09:29.5; round that.  
#

# From Sue Williams (2006-12-07):

# The Bahamas announced about a month ago that they plan to change their DST

```

# rules to sync with the U.S. starting in 2007....
# http://www.jonesbahamas.com/?c=45&a=10412

#
Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Bahamas 1964 1975 - Oct lastSun 2:00 0 S
Rule Bahamas 1964 1975 - Apr lastSun 2:00 1:00 D
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone America/Nassau -5:09:30 - LMT 1912 Mar 2
-5:00 Bahamas E%sT 1976
-5:00 US E%sT

# Barbados

# For 1899 Milne gives -3:58:29.2; round that.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Barb 1977 only - Jun 12 2:00 1:00 D
Rule Barb 1977 1978 - Oct Sun>=1 2:00 0 S
Rule Barb 1978 1980 - Apr Sun>=15 2:00 1:00 D
Rule Barb 1979 only - Sep 30 2:00 0 S
Rule Barb 1980 only - Sep 25 2:00 0 S
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone America/Barbados -3:58:29 - LMT 1924 # Bridgetown
-3:58:29 - BMT 1932 # Bridgetown Mean Time
-4:00 Barb A%sT

# Belize
# Whitman entirely disagrees with Shanks; go with Shanks & Pottenger.
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Belize 1918 1942 - Oct Sun>=2 0:00 0:30 HD
Rule Belize 1919 1943 - Feb Sun>=9 0:00 0 S
Rule Belize 1973 only - Dec
5 0:00 1:00 D
Rule Belize 1974 only - Feb 9 0:00 0 S
Rule Belize 1982 only - Dec 18 0:00 1:00 D
Rule Belize 1983 only - Feb 12 0:00 0 S
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone America/Belize -5:52:48 - LMT 1912 Apr
-6:00 Belize C%sT

# Bermuda

# For 1899 Milne gives -4:19:18.3 as the meridian of the clock tower,
# Bermuda dockyard, Ireland I; round that.

# From Dan Jones, reporting in The Royal Gazette (2006-06-26):

```

# Next year, however, clocks in the US will go forward on the second Sunday  
# in March, until the first Sunday in November. And, after the Time Zone  
# (Seasonal Variation) Bill 2006 was passed in the House of Assembly on  
# Friday, the same thing will happen in Bermuda.  
# <http://www.theroyalgazette.com/apps/pbcs.dll/article?AID=/20060529/NEWS/105290135>

# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Atlantic/Bermuda -4:19:18 - LMT 1930 Jan 1 2:00 # Hamilton  
-4:00 - AST 1974 Apr 28 2:00  
-4:00 Bahamas A%sT 1976  
-4:00 US A%sT

#  
Cayman Is  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone America/Cayman -5:25:32 - LMT 1890 # Georgetown  
-5:07:12 - KMT 1912 Feb # Kingston Mean Time  
-5:00 - EST

# Costa Rica

# Milne gives -5:36:13.3 as San Jose mean time; round to nearest.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule CR 1979 1980 - Feb lastSun 0:00 1:00 D  
Rule CR 1979 1980 - Jun Sun>=1 0:00 0 S  
Rule CR 1991 1992 - Jan Sat>=15 0:00 1:00 D  
# IATA SSIM (1991-09) says the following was at 1:00;  
# go with Shanks & Pottenger.  
Rule CR 1991 only - Jul 1 0:00 0 S  
Rule CR 1992 only - Mar 15 0:00 0 S  
# There are too many San Joses elsewhere, so we'll use `Costa Rica'.  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone America/Costa\_Rica -5:36:13 - LMT 1890 # San Jose  
-5:36:13 - SJMT 1921 Jan 15 # San Jose Mean Time  
-6:00 CR C%sT

# Coco  
# no information; probably like America/Costa\_Rica

# Cuba

# From Paul Eggert (2013-02-21):  
# Milne gives -5:28:50.45 for the observatory at Havana, -5:29:23.57  
# for the  
port, and -5:30 for meteorological observations.  
# For now, stick with Shanks & Pottenger.

# From Arthur David Olson (1999-03-29):

# The 1999-03-28 exhibition baseball game held in Havana, Cuba, between  
# the Cuban National Team and the Baltimore Orioles was carried live on  
# the Orioles Radio Network, including affiliate WTOP in Washington, DC.  
# During the game, play-by-play announcer Jim Hunter noted that  
# "We'll be losing two hours of sleep...Cuba switched to Daylight Saving  
# Time today." (The "two hour" remark referred to losing one hour of  
# sleep on 1999-03-28--when the announcers were in Cuba as it switched  
# to DST--and one more hour on 1999-04-04--when the announcers will have  
# returned to Baltimore, which switches on that date.)

# From Evert van der Veer via Steffen Thorsen (2004-10-28):  
# Cuba is not going back to standard time this year.  
# From Paul Eggert (2006-03-22):  
# <http://www.granma.cu/ingles/2004/septiembre/juev30/41medid-i.html>  
# says that it's due to a problem  
# at the Antonio Guiteras  
# thermoelectric plant, and says "This October there will be no return  
# to normal hours (after daylight saving time)".  
# For now, let's assume that it's a temporary measure.

# From Carlos A. Carnero Delgado (2005-11-12):  
# This year (just like in 2004-2005) there's no change in time zone  
# adjustment in Cuba. We will stay in daylight saving time:  
# <http://www.granma.cu/espanol/2005/noviembre/mier9/horario.html>

# From Jesper Norgaard Welen (2006-10-21):  
# An article in GRANMA INTERNACIONAL claims that Cuba will end  
# the 3 years of permanent DST next weekend, see  
# <http://www.granma.cu/ingles/2006/octubre/lun16/43horario.html>  
# "On Saturday night, October 28 going into Sunday, October 29, at 01:00,  
# watches should be set back one hour -- going back to 00:00 hours -- returning  
# to the normal schedule....

# From Paul Eggert (2007-03-02):  
# <http://www.granma.cubaweb.cu/english/news/art89.html>, dated yesterday,  
# says Cuban clocks will advance at midnight  
# on March 10.

# For lack of better information, assume Cuba will use US rules,  
# except that it switches at midnight standard time as usual.

#

# From Steffen Thorsen (2007-10-25):  
# Carlos Alberto Fonseca Arauz informed me that Cuba will end DST one week  
# earlier - on the last Sunday of October, just like in 2006.

#

# He supplied these references:

#

# <http://www.prensalatina.com.mx/article.asp?ID=%7B4CC32C1B-A9F7-42FB-8A07-8631AFC923AF%7D&language=ES>

```
# http://actualidad.terra.es/sociedad/articulo/cuba_llama_ahorrar_energia_cambio_1957044.htm
#
# From Alex Kryvenishev (2007-10-25):
# Here is also article from Granma (Cuba):
#
# [Regira] el Horario Normal desde el [proximo] domingo 28 de octubre
# http://www.granma.cubaweb.cu/2007/10/24/nacional/artic07.html
#
# http://www.worldtimezone.com/dst_news/dst_news_cuba03.html

# From Arthur David Olson (2008-03-09):
# I'm in Maryland which is now observing United States Eastern Daylight
# Time. At 9:44 local time I used RealPlayer to listen to
#
# <a href="http://media.enet.cu/radioreloj">
# http://media.enet.cu/radioreloj
# </a>, a Cuban information station, and heard
# the time announced as "ocho cuarenta y cuatro" ("eight forty-four"),
# indicating that Cuba is still on standard time.

# From Steffen Thorsen (2008-03-12):
# It seems that Cuba will start DST on Sunday, 2007-03-16...
# It was announced yesterday, according to this source (in Spanish):
# <a href="http://www.nnc.cubaweb.cu/marzo-2008/cien-1-11-3-08.htm">
# http://www.nnc.cubaweb.cu/marzo-2008/cien-1-11-3-08.htm
# </a>
#
# Some more background information is posted here:
# <a href="http://www.timeanddate.com/news/time/cuba-starts-dst-march-16.html">
# http://www.timeanddate.com/news/time/cuba-starts-dst-march-16.html
# </a>
#
# The article also says that Cuba has been observing DST since 1963,
# while Shanks (and tzdata) has 1965 as the first date (except in the
# 1940's). Many other web pages in Cuba also claim that it has been
# observed since 1963, but with
# the exception of 1970 - an exception
# which is not present in tzdata/Shanks. So there is a chance we need to
# change some historic records as well.
#
# One example:
# <a href="http://www.radiohc.cu/espanol/noticias/mar07/11mar/hor.htm">
# http://www.radiohc.cu/espanol/noticias/mar07/11mar/hor.htm
# </a>

# From Jesper Norgaard Welen (2008-03-13):
# The Cuban time change has just been confirmed on the most authoritative
# web site, the Granma. Please check out
```



```
# <a href="http://www.granma.cubaweb.cu/2008/03/13/nacional/artic10.html">
# http://www.granma.cubaweb.cu/2008/03/13/nacional/artic10.html
# </a>
#
# Basically as expected after Steffen Thorsens information, the change
# will take place midnight between Saturday and Sunday.

# From Arthur David Olson (2008-03-12):
# Assume Sun>=15 (third Sunday) going forward.

# From Alexander Krivenyshev (2009-03-04)
# According to the Radio Reloj - Cuba will start Daylight Saving Time on
# midnight between Saturday, March 07, 2009 and Sunday,
# March 08, 2009-
# not on midnight March 14 / March 15 as previously thought.
#
# <a href="http://www.worldtimezone.com/dst_news/dst_news_cuba05.html">
# http://www.worldtimezone.com/dst_news/dst_news_cuba05.html
# (in Spanish)
# </a>

# From Arthur David Olson (2009-03-09)
# I listened over the Internet to
# <a href="http://media.enet.cu/readioreloj">
# http://media.enet.cu/readioreloj
# </a>
# this morning; when it was 10:05 a. m. here in Bethesda, Maryland the
# the time was announced as "diez cinco"--the same time as here, indicating
# that has indeed switched to DST. Assume second Sunday from 2009 forward.

# From Steffen Thorsen (2011-03-08):
# Granma announced that Cuba is going to start DST on 2011-03-20 00:00:00
# this year. Nothing about the end date known so far (if that has
# changed at all).
#
# Source:
# <a href="http://granma.co.cu/2011/03/08/nacional/artic01.html">
# http://granma.co.cu/2011/03/08/nacional/artic01.html
# </a>
#
# Our info:
# <a href="http://www.timeanddate.com/news/time/cuba-starts-dst-2011.html">
#
# http://www.timeanddate.com/news/time/cuba-starts-dst-2011.html
# </a>
#
# From Steffen Thorsen (2011-10-30)
# Cuba will end DST two weeks later this year. Instead of going back
```

# tonight, it has been delayed to 2011-11-13 at 01:00.  
#  
# One source (Spanish)  
# <a href="http://www.radioangulo.cu/noticias/cuba/17105-cuba-restablecera-el-horario-del-meridiano-de-greenwich.html">  
# http://www.radioangulo.cu/noticias/cuba/17105-cuba-restablecera-el-horario-del-meridiano-de-greenwich.html  
# </a>  
#  
# Our page:  
# <a href="http://www.timeanddate.com/news/time/cuba-time-changes-2011.html">  
# http://www.timeanddate.com/news/time/cuba-time-changes-2011.html  
# </a>  
#  
# From Steffen Thorsen (2012-03-01)  
# According to Radio Reloj, Cuba will start DST on Midnight between March  
# 31 and April 1.  
#  
# Radio Reloj has the following info (Spanish):  
# <a href="http://www.radioreloj.cu/index.php/noticias-radio-reloj/71-miscelaneas/7529-cuba-aplicara-el-horario-de-verano-desde-el-1-de-abril">  
#  
# http://www.radioreloj.cu/index.php/noticias-radio-reloj/71-miscelaneas/7529-cuba-aplicara-el-horario-de-verano-desde-el-1-de-abril  
# </a>  
#  
# Our info on it:  
# <a href="http://www.timeanddate.com/news/time/cuba-starts-dst-2012.html">  
# http://www.timeanddate.com/news/time/cuba-starts-dst-2012.html  
# </a>

# From Steffen Thorsen (2012-11-03):  
# Radio Reloj and many other sources report that Cuba is changing back  
# to standard time on 2012-11-04:  
# http://www.radioreloj.cu/index.php/noticias-radio-reloj/36-nacionales/9961-regira-horario-normal-en-cuba-desde-el-domingo-cuatro-de-noviembre  
# From Paul Eggert (2012-11-03):  
# For now, assume the future rule is first Sunday in November.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Cuba 1928 only - Jun 10 0:00 1:00 D  
Rule Cuba 1928 only - Oct 10 0:00 0 S  
Rule Cuba 1940 1942 - Jun Sun>=1 0:00 1:00 D  
Rule Cuba 1940 1942 - Sep Sun>=1 0:00 0 S  
Rule Cuba 1945 1946 - Jun Sun>=1 0:00 1:00 D  
Rule Cuba 1945 1946 - Sep Sun>=1 0:00 0 S  
Rule Cuba 1965 only - Jun 1 0:00 1:00 D  
Rule Cuba 1965 only - Sep 30 0:00 0 S  
Rule Cuba 1966 only - May 29 0:00 1:00 D

Rule Cuba 1966 only - Oct 2 0:00 0 S  
 Rule Cuba 1967 only - Apr 8 0:00 1:00 D  
 Rule Cuba 1967 1968 - Sep Sun>=8 0:00 0 S  
 Rule Cuba 1968 only - Apr 14 0:00 1:00 D  
 Rule Cuba 1969 1977 - Apr lastSun 0:00 1:00 D  
 Rule Cuba 1969 1971 - Oct lastSun 0:00 0 S  
 Rule Cuba 1972 1974 - Oct 8 0:00 0 S  
 Rule Cuba 1975 1977 - Oct lastSun 0:00 0 S  
 Rule Cuba 1978 only - May 7 0:00 1:00 D  
 Rule Cuba 1978 1990 - Oct Sun>=8 0:00 0 S  
 Rule Cuba 1979 1980 - Mar Sun>=15 0:00 1:00 D  
 Rule Cuba 1981 1985 - May Sun>=5 0:00 1:00 D  
 Rule Cuba 1986 1989 - Mar Sun>=14 0:00 1:00 D  
 Rule Cuba 1990 1997 - Apr Sun>=1 0:00 1:00 D  
 Rule Cuba 1991 1995 - Oct Sun>=8 0:00s 0 S  
 Rule Cuba 1996 only - Oct  
 6 0:00s 0 S  
 Rule Cuba 1997 only - Oct 12 0:00s 0 S  
 Rule Cuba 1998 1999 - Mar lastSun 0:00s 1:00 D  
 Rule Cuba 1998 2003 - Oct lastSun 0:00s 0 S  
 Rule Cuba 2000 2004 - Apr Sun>=1 0:00s 1:00 D  
 Rule Cuba 2006 2010 - Oct lastSun 0:00s 0 S  
 Rule Cuba 2007 only - Mar Sun>=8 0:00s 1:00 D  
 Rule Cuba 2008 only - Mar Sun>=15 0:00s 1:00 D  
 Rule Cuba 2009 2010 - Mar Sun>=8 0:00s 1:00 D  
 Rule Cuba 2011 only - Mar Sun>=15 0:00s 1:00 D  
 Rule Cuba 2011 only - Nov 13 0:00s 0 S  
 Rule Cuba 2012 only - Apr 1 0:00s 1:00 D  
 Rule Cuba 2012 max - Nov Sun>=1 0:00s 0 S  
 Rule Cuba 2013 max - Mar Sun>=8 0:00s 1:00 D

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone America/Havana -5:29:28 - LMT 1890  
 -5:29:36 - HMT 1925 Jul 19 12:00 # Havana MT  
 -5:00 Cuba C%sT

# Dominica

# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone America/Dominica -4:05:36 - LMT 1911 Jul 1 0:01 # Roseau  
 -4:00 - AST

# Dominican Republic

# From Steffen Thorsen (2000-10-30):  
 # Enrique Morales reported to me that the Dominican Republic has changed the  
 # time zone to Eastern Standard Time as of Sunday 29 at 2 am....  
 # <http://www.listin.com.do/antes/261000/republica/princi.html>

# From Paul Eggert (2000-12-04):  
# That URL (2000-10-26, in Spanish)  
says they planned to use US-style DST.

# From Rives McDow (2000-12-01):  
# Dominican Republic changed its mind and presidential decree on Tuesday,  
# November 28, 2000, with a new decree. On Sunday, December 3 at 1:00 AM the  
# Dominican Republic will be reverting to 8 hours from the International Date  
# Line, and will not be using DST in the foreseeable future. The reason they  
# decided to use DST was to be in synch with Puerto Rico, who was also going  
# to implement DST. When Puerto Rico didn't implement DST, the president  
# decided to revert.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule DR 1966 only - Oct 30 0:00 1:00 D

Rule DR 1967 only - Feb 28 0:00 0 S

Rule DR 1969 1973 - Oct lastSun 0:00 0:30 HD

Rule DR 1970 only - Feb 21 0:00 0 S

Rule DR 1971 only - Jan 20 0:00 0 S

Rule DR 1972 1974 - Jan 21 0:00 0 S

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Santo\_Domingo -4:39:36 - LMT 1890

-4:40 - SDMT 1933 Apr 1 12:00 # S. Dom. MT

-5:00 DR E%sT 1974 Oct 27

-4:00 - AST 2000

Oct 29 02:00

-5:00 US E%sT 2000 Dec 3 01:00

-4:00 - AST

# El Salvador

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Salv 1987 1988 - May Sun>=1 0:00 1:00 D

Rule Salv 1987 1988 - Sep lastSun 0:00 0 S

# There are too many San Salvadors elsewhere, so use America/El\_Salvador

# instead of America/San\_Salvador.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/El\_Salvador -5:56:48 - LMT 1921 # San Salvador

-6:00 Salv C%sT

# Grenada

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/Grenada -4:07:00 - LMT 1911 Jul # St George's

-4:00 - AST

# Guadeloupe

```

# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone America/Guadeloupe -4:06:08 - LMT 1911 Jun 8 # Pointe a Pitre
  -4:00 - AST
# St Barthelemy
Link America/Guadeloupe America/St_Barthelemy
# St Martin (French part)
Link America/Guadeloupe America/Marigot

# Guatemala
#
# From Gwillim Law (2006-04-22), after a heads-up from Oscar van Vlijmen:
# Diario Co Latino, at
# http://www.diariocolatino.com/internacionales/detalles.asp?NewsID=8079,
#
# says in an article dated 2006-04-19 that the Guatemalan government had
# decided on that date to advance official time by 60 minutes, to lessen the
# impact of the elevated cost of oil.... Daylight saving time will last from
# 2006-04-29 24:00 (Guatemalan standard time) to 2006-09-30 (time unspecified).
# From Paul Eggert (2006-06-22):
# The Ministry of Energy and Mines, press release CP-15/2006
# (2006-04-19), says DST ends at 24:00. See
# <http://www.sieca.org.gt/Sitio\_publico/Energeticos/Doc/Medidas/Cambio\_Horario\_Nac\_190406.pdf>.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Guat 1973 only - Nov 25 0:00 1:00 D
Rule Guat 1974 only - Feb 24 0:00 0 S
Rule Guat 1983 only - May 21 0:00 1:00 D
Rule Guat 1983 only - Sep 22 0:00 0 S
Rule Guat 1991 only - Mar 23 0:00 1:00 D
Rule Guat 1991 only - Sep 7 0:00 0 S
Rule Guat 2006 only - Apr 30 0:00 1:00 D
Rule Guat 2006 only - Oct 1 0:00 0 S
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone America/Guatemala -6:02:04
  - LMT 1918 Oct 5
  -6:00 Guat C%sT

# Haiti
# From Gwillim Law (2005-04-15):
# Risto O. Nykanen wrote me that Haiti is now on DST.
# I searched for confirmation, and I found a
# <a href="http://www.haitianconsulate.org/time.doc"> press release
# on the Web page of the Haitian Consulate in Chicago (2005-03-31),
# </a>. Translated from French, it says:
#
# "The Prime Minister's Communication Office notifies the public in general
# and the press in particular that, following a decision of the Interior
# Ministry and the Territorial Collectivities [I suppose that means the

```

# provinces], Haiti will move to Eastern Daylight Time in the night from next  
# Saturday the 2nd to Sunday the 3rd.  
#  
# "Consequently, the Prime Minister's Communication Office wishes to inform  
# the population that the country's clocks will be set forward one hour  
# starting at midnight. This provision will hold until the last Saturday in  
# October 2005.  
#  
# "Port-au-Prince, March  
# 31, 2005"  
#  
# From Steffen Thorsen (2006-04-04):  
# I have been informed by users that Haiti observes DST this year like  
# last year, so the current "only" rule for 2005 might be changed to a  
# "max" rule or to last until 2006. (Who knows if they will observe DST  
# next year or if they will extend their DST like US/Canada next year).  
#  
# I have found this article about it (in French):  
# <http://www.haitipressnetwork.com/news.cfm?articleID=7612>  
#  
# The reason seems to be an energy crisis.

# From Stephen Colebourne (2007-02-22):  
# Some IATA info: Haiti won't be having DST in 2007.

# From Steffen Thorsen (2012-03-11):  
# According to several news sources, Haiti will observe DST this year,  
# apparently using the same start and end date as USA/Canada.  
# So this means they have already changed their time.  
#  
# <http://www.alterpresse.org/spip.php?article12510>  
# <http://radiovision2000haiti.net/home/?p=13253>  
#  
# From Arthur David Olson (2012-03-11):  
# The alterpresse.org source seems to show  
# a US-style leap from 2:00 a.m. to  
# 3:00 a.m. rather than the traditional Haitian jump at midnight.  
# Assume a US-style fall back as well.

# From Steffen Thorsen (2013-03-10):  
# It appears that Haiti is observing DST this year as well, same rules  
# as US/Canada. They did it last year as well, and it looks like they  
# are going to observe DST every year now...  
#  
# <http://radiovision2000haiti.net/public/haiti-avis-changement-dheure-dimanche/>  
# <http://www.canalplushaiti.net/?p=6714>

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Haiti 1983 only - May 8 0:00 1:00 D  
Rule Haiti 1984 1987 - Apr lastSun 0:00 1:00 D  
Rule Haiti 1983 1987 - Oct lastSun 0:00 0 S  
# Shanks & Pottenger say AT is 2:00, but IATA SSIM (1991/1997) says 1:00s.  
# Go with IATA.  
Rule Haiti 1988 1997 - Apr Sun>=1 1:00s 1:00 D  
Rule Haiti 1988 1997 - Oct lastSun 1:00s 0 S  
Rule Haiti 2005 2006 - Apr Sun>=1 0:00 1:00 D  
Rule Haiti 2005 2006 - Oct lastSun 0:00 0 S  
Rule Haiti 2012 max - Mar Sun>=8 2:00 1:00 D  
Rule Haiti 2012 max - Nov Sun>=1 2:00 0 S

#

Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
Zone America/Port-au-Prince -4:49:20 - LMT 1890  
-4:49 - PPMT 1917 Jan 24 12:00 # P-a-P MT  
-5:00 Haiti E%sT

# Honduras

# Shanks & Pottenger say 1921 Jan 1; go with Whitman's more precise Apr 1.

# From Paul Eggert (2006-05-05):

# worldtimezone.com reports a 2006-05-02 Spanish-language AP article  
# saying Honduras will start using DST midnight Saturday, effective 4  
# months until September. La Tribuna reported today  
# <<http://www.latribuna.hn/99299.html>> that Manuel Zelaya, the president  
# of Honduras, refused to back down on this.

# From Jesper Norgaard Welen (2006-08-08):

# It seems that Honduras has returned from DST to standard time this Monday at  
# 00:00 hours (prolonging Sunday to 25 hours duration).  
# [http://www.worldtimezone.com/dst\\_news/dst\\_news\\_honduras04.html](http://www.worldtimezone.com/dst_news/dst_news_honduras04.html)

# From Paul Eggert (2006-08-08):

# Also see Diario El Heraldo, The country returns to standard time (2006-08-08)  
# <<http://www.elheraldo.hn/nota.php?nid=54941&sec=12>>.

#

It mentions executive decree 18-2006.

# From Steffen Thorsen (2006-08-17):

# Honduras will observe DST from 2007 to 2009, exact dates are not  
# published, I have located this authoritative source:  
# <http://www.presidencia.gob.hn/noticia.aspx?nId=47>

# From Steffen Thorsen (2007-03-30):

# [http://www.laprensahn.com/pais\\_nota.php?id04962=7386](http://www.laprensahn.com/pais_nota.php?id04962=7386)  
# So it seems that Honduras will not enter DST this year....

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Hond 1987 1988 - May Sun>=1 0:00 1:00 D  
 Rule Hond 1987 1988 - Sep lastSun 0:00 0 S  
 Rule Hond 2006 only - May Sun>=1 0:00 1:00 D  
 Rule Hond 2006 only - Aug Mon>=1 0:00 0 S  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone America/Tegucigalpa -5:48:52 - LMT 1921 Apr  
 -6:00 Hond C%sT  
 #  
 # Great Swan I ceded by US to Honduras in 1972  
  
 # Jamaica  
  
 # From Bob Devine (1988-01-28):  
 # Follows US rules.  
  
 # From U. S. Naval Observatory (1989-01-19):  
 # JAMAICA 5 H BEHIND UTC  
  
 # From Shanks & Pottenger:  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone America/Jamaica -5:07:12  
 - LMT 1890 # Kingston  
 -5:07:12 - KMT 1912 Feb # Kingston Mean Time  
 -5:00 - EST 1974 Apr 28 2:00  
 -5:00 US E%sT 1984  
 -5:00 - EST  
  
 # Martinique  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone America/Martinique -4:04:20 - LMT 1890 # Fort-de-France  
 -4:04:20 - FFMT 1911 May # Fort-de-France MT  
 -4:00 - AST 1980 Apr 6  
 -4:00 1:00 ADT 1980 Sep 28  
 -4:00 - AST  
  
 # Montserrat  
 # From Paul Eggert (2006-03-22):  
 # In 1995 volcanic eruptions forced evacuation of Plymouth, the capital.  
 # world.gazetteer.com says Cork Hill is the most populous location now.  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone America/Montserrat -4:08:52 - LMT 1911 Jul 1 0:01 # Cork Hill  
 -4:00 - AST  
  
 # Nicaragua  
 #  
 # This uses Shanks & Pottenger for times before 2005.  
 #  
 # From Steffen Thorsen (2005-04-12):



# I've got reports from 8 different people that Nicaragua just started  
# DST on Sunday 2005-04-10, in order to save energy because  
# of  
# expensive petroleum. The exact end date for DST is not yet  
# announced, only "September" but some sites also say "mid-September".  
# Some background information is available on the President's official site:  
#  
[http://www.presidencia.gob.ni/Presidencia/Files\\_index/Secretaria/Notas%20de%20Prensa/Presidente/2005/ABRIL/Gobierno-de-nicaragua-adelanta-hora-oficial-06abril.htm](http://www.presidencia.gob.ni/Presidencia/Files_index/Secretaria/Notas%20de%20Prensa/Presidente/2005/ABRIL/Gobierno-de-nicaragua-adelanta-hora-oficial-06abril.htm)  
# The Decree, no 23-2005 is available here:  
# [http://www.presidencia.gob.ni/buscador\\_gaceta/BD/DECRETOS/2005/Decreto%2023-2005%20Se%20adelanta%20en%20una%20hora%20en%20todo%20el%20territorio%20nacional%20apartir%20de%20las%2024horas%20del%2009%20de%20Abril.pdf](http://www.presidencia.gob.ni/buscador_gaceta/BD/DECRETOS/2005/Decreto%2023-2005%20Se%20adelanta%20en%20una%20hora%20en%20todo%20el%20territorio%20nacional%20apartir%20de%20las%2024horas%20del%2009%20de%20Abril.pdf)  
#  
# From Paul Eggert (2005-05-01):  
# The decree doesn't say anything about daylight saving, but for now let's  
# assume that it is daylight saving....  
#  
# From Gwillim Law (2005-04-21):  
# The Associated Press story on the time change, which can be found at  
#  
[http://www.lapalmainteractivo.com/guias/content/gen/ap/America\\_Latina/AMC\\_GEN\\_NICARAGUA\\_HORA.html](http://www.lapalmainteractivo.com/guias/content/gen/ap/America_Latina/AMC_GEN_NICARAGUA_HORA.html)  
#  
# and elsewhere, says (fifth paragraph, translated from Spanish): "The last  
# time that a change of clocks was applied to save energy was in the year 2000  
# during the Arnoldo Aleman administration."...  
# The northamerica file says that Nicaragua has been on UTC-6 continuously  
# since December 1998. I wasn't able to find any details of Nicaraguan time  
# changes in 2000. Perhaps a note could be added to the northamerica file, to  
# the effect that we have indirect evidence that DST was observed in 2000.  
#  
# From Jesper Norgaard Welen (2005-11-02):  
# Nicaragua left DST the 2005-10-02 at 00:00 (local time).  
# [http://www.presidencia.gob.ni/presidencia/files\\_index/secretaria/comunicados/2005/septiembre/26septiembre-cambio-hora.htm](http://www.presidencia.gob.ni/presidencia/files_index/secretaria/comunicados/2005/septiembre/26septiembre-cambio-hora.htm)  
# (2005-09-26)  
#  
# From Jesper Norgaard Welen (2006-05-05):  
# <http://www.elnuevodiario.com.ni/2006/05/01/nacionales/18410>  
# (my informal translation)  
# By order of the president of the republic, Enrique Bolanos, Nicaragua  
# advanced by sixty minutes their official  
# time, yesterday at 2 in the  
# morning, and will stay that way until 30.th. of september.  
#  
# From Jesper Norgaard Welen (2006-09-30):  
# [http://www.presidencia.gob.ni/buscador\\_gaceta/BD/DECRETOS/2006/D-063-2006P-PRN-Cambio-Hora.pdf](http://www.presidencia.gob.ni/buscador_gaceta/BD/DECRETOS/2006/D-063-2006P-PRN-Cambio-Hora.pdf)  
# My informal translation runs:

```

# The natural sun time is restored in all the national territory, in that the
# time is returned one hour at 01:00 am of October 1 of 2006.
#
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Nic 1979 1980 - Mar Sun>=16 0:00 1:00 D
Rule Nic 1979 1980 - Jun Mon>=23 0:00 0 S
Rule Nic 2005 only - Apr 10 0:00 1:00 D
Rule Nic 2005 only - Oct Sun>=1 0:00 0 S
Rule Nic 2006 only - Apr 30 2:00 1:00 D
Rule Nic 2006 only - Oct Sun>=1 1:00 0 S
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Managua -5:45:08 - LMT 1890
-5:45:12 - MMT 1934 Jun 23 # Managua Mean Time?
-6:00 - CST 1973 May
-5:00 - EST 1975 Feb 16
-6:00 Nic C%sT 1992 Jan 1 4:00
-5:00 - EST 1992 Sep 24
-6:00 - CST 1993
-5:00 - EST 1997
-6:00 Nic C%sT

#
Panama
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Panama -5:18:08 - LMT 1890
-5:19:36 - CMT 1908 Apr 22 # Colon Mean Time
-5:00 - EST

# Puerto Rico
# There are too many San Juans elsewhere, so we'll use `Puerto_Rico'.
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Puerto_Rico -4:24:25 - LMT 1899 Mar 28 12:00 # San Juan
-4:00 - AST 1942 May 3
-4:00 US A%sT 1946
-4:00 - AST

# St Kitts-Nevis
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/St_Kitts -4:10:52 - LMT 1912 Mar 2 # Basseterre
-4:00 - AST

# St Lucia
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/St_Lucia -4:04:00 - LMT 1890 # Castries
-4:04:00 - CMT 1912 # Castries Mean Time
-4:00 - AST

# St Pierre and Miquelon

```

```

# There are too many St Pierres elsewhere, so we'll use `Miquelon'.
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Miquelon -3:44:40 - LMT 1911 May 15 # St Pierre
-4:00 - AST 1980 May
-3:00 - PMST 1987 # Pierre & Miquelon Time
-3:00 Canada PM%sT

#
St Vincent and the Grenadines
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/St_Vincent -4:04:56 - LMT 1890 # Kingstown
-4:04:56 - KMT 1912 # Kingstown Mean Time
-4:00 - AST

# Turks and Caicos
#
# From Chris Dunn in
# <http://bugs.debian.org/cgi-bin/bugreport.cgi?bug=415007>
# (2007-03-15): In the Turks & Caicos Islands (America/Grand_Turk) the
# daylight saving dates for time changes have been adjusted to match
# the recent U.S. change of dates.
#
# From Brian Inglis (2007-04-28):
# http://www.turksandcaicos.tc/calendar/index.htm [2007-04-26]
# there is an entry for Nov 4 "Daylight Savings Time Ends 2007" and three
# rows before that there is an out of date entry for Oct:
# "Eastern Standard Times Begins 2007
# Clocks are set back one hour at 2:00 a.m. local Daylight Saving Time"
# indicating that the normal ET rules are followed.
#
# From Paul Eggert (2006-05-01):
# Shanks & Pottenger say they use US DST rules, but IATA SSIM (1991/1998)
# says
# they switch at midnight. Go with Shanks & Pottenger.
#
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule TC 1979 1986 - Apr lastSun 2:00 1:00 D
Rule TC 1979 2006 - Oct lastSun 2:00 0 S
Rule TC 1987 2006 - Apr Sun>=1 2:00 1:00 D
Rule TC 2007 max - Mar Sun>=8 2:00 1:00 D
Rule TC 2007 max - Nov Sun>=1 2:00 0 S
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Grand_Turk -4:44:32 - LMT 1890
-5:07:12 - KMT 1912 Feb # Kingston Mean Time
-5:00 TC E%sT

# British Virgin Is
# Zone NAME GMTOFF RULES FORMAT [UNTIL]

```

Zone America/Tortola -4:18:28 - LMT 1911 Jul # Road Town  
-4:00 - AST

# Virgin Is

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone America/St\_Thomas -4:19:44 - LMT 1911 Jul # Charlotte Amalie  
-4:00 - AST

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/northamerica

No license file was found, but licenses were detected in source scan.

# <pre>

# This file is in the public domain, so clarified as of

# 2009-05-17 by Arthur David Olson.

# This data is by no means authoritative; if you think you know better,

# go ahead and edit the file (and please send any changes to

# tz@iana.org for general use in the future).

# From Paul Eggert (2006-03-22):

# A good source for time zone historical data outside the U.S. is

# Thomas G. Shanks and Rique Pottenger, The International Atlas (6th edition),

# San Diego: ACS Publications, Inc. (2003).

#

# Gwillim Law writes that a good source

# for recent time zone data is the International Air Transport

# Association's Standard Schedules Information Manual (IATA SSIM),

# published semiannually. Law sent in several helpful summaries

# of the IATA's data after 1990.

#

# Except where otherwise noted, Shanks & Pottenger is the source for

# entries through 1991, and IATA SSIM is the source for entries afterwards.

#

# Other

sources occasionally used include:

#

# Edward W. Whitman, World Time Differences,

# Whitman Publishing Co, 2 Niagara Av, Ealing, London (undated),

# which I found in the UCLA library.

#

# <a href="http://www.pettswoodvillage.co.uk/Daylight\_Savings\_William\_Willett.pdf">

# William Willett, The Waste of Daylight, 19th edition

# </a> (1914-03)

#

# Milne J. Civil time. Geogr J. 1899 Feb;13(2):173-94

# <http://www.jstor.org/stable/1774359>. He writes:

```

# "It is requested that corrections and additions to these tables
# may be sent to Mr. John Milne, Royal Geographical Society,
# Savile Row, London." Nowadays please email them to tz@iana.org.
#
# Brazil's Departamento Servico da Hora (DSH),
# <a href="http://pcdsh01.on.br/HISTHV.htm">
# History of Summer Time
# </a> (1998-09-21, in Portuguese)

#
# I invented the abbreviations marked `*' in the following table;
# the rest are from earlier versions of this file, or from other sources.
# Corrections are welcome!
#         std dst 2dst
#
#         LMT      Local Mean Time
# -4:00   AST ADT   Atlantic
# -3:00   WGT WGST  Western Greenland*
# -1:00   EGT EGST  Eastern Greenland*
# 0:00    GMT BST  BDST Greenwich, British Summer
# 0:00    GMT IST   Greenwich, Irish Summer
# 0:00    WET WEST WEMT Western Europe
# 0:19:32.13 AMT NST  Amsterdam, Netherlands Summer (1835-1937)*
# 0:20    NET NEST  Netherlands (1937-1940)*
# 1:00    CET CEST CEMT Central Europe
# 1:00:14 SET      Swedish (1879-1899)*
# 2:00    EET EEST  Eastern Europe
# 3:00    MSK MSD   Moscow
#
# A reliable and entertaining source about time zones, especially in Britain,
# Derek Howse, Greenwich time and longitude, Philip Wilson Publishers (1997).

# From Peter Ilieve (1994-12-04),
# The original six [EU members]: Belgium, France, (West) Germany, Italy,
# Luxembourg, the Netherlands.
# Plus,
# from 1 Jan 73: Denmark, Ireland, United Kingdom.
# Plus, from 1 Jan 81: Greece.
# Plus, from 1 Jan 86: Spain, Portugal.
# Plus, from 1 Jan 95: Austria, Finland, Sweden. (Norway negotiated terms for
# entry but in a referendum on 28 Nov 94 the people voted No by 52.2% to 47.8%
# on a turnout of 88.6%. This was almost the same result as Norway's previous
# referendum in 1972, they are the only country to have said No twice.
# Referendums in the other three countries voted Yes.)
# ...
# Estonia ... uses EU dates but not at 01:00 GMT, they use midnight GMT.
# I don't think they know yet what they will do from 1996 onwards.
# ...

```

# There shouldn't be any [current members who are not using EU rules].  
# A Directive has the force of law, member states are obliged to enact  
# national law to implement it. The only contentious issue was the  
# different end date for the UK and Ireland, and this was always allowed  
# in the Directive.

#####

#  
Britain (United Kingdom) and Ireland (Eire)

# From Peter Ilieve (1994-07-06):

#  
# On 17 Jan 1994 the Independent, a UK quality newspaper, had a piece about  
# historical vistas along the Thames in west London. There was a photo  
# and a sketch map showing some of the sightlines involved. One paragraph  
# of the text said:

#  
# `An old stone obelisk marking a forgotten terrestrial meridian stands  
# beside the river at Kew. In the 18th century, before time and longitude  
# was standardised by the Royal Observatory in Greenwich, scholars observed  
# this stone and the movement of stars from Kew Observatory nearby. They  
# made their calculations and set the time for the Horse Guards and Parliament,  
# but now the stone is obscured by scrubwood and can only be seen by walking  
# along the towpath within a few yards of it.'

#  
# I have a one inch to one mile map of London and my estimate of the stone's  
# position is 51 deg. 28' 30" N, 0 deg. 18' 45" W. The longitude should  
#  
# be within about +-2". The Ordnance Survey grid reference is TQ172761.

#  
# [This yields GMTOFF = -0:01:15 for London LMT in the 18th century.]

# From Paul Eggert (1993-11-18):

#  
# Howse writes that Britain was the first country to use standard time.  
# The railways cared most about the inconsistencies of local mean time,  
# and it was they who forced a uniform time on the country.  
# The original idea was credited to Dr. William Hyde Wollaston (1766-1828)  
# and was popularized by Abraham Follett Osler (1808-1903).  
# The first railway to adopt London time was the Great Western Railway  
# in November 1840; other railways followed suit, and by 1847 most  
# (though not all) railways used London time. On 1847-09-22 the  
# Railway Clearing House, an industry standards body, recommended that GMT be  
# adopted at all stations as soon as the General Post Office permitted it.  
# The transition occurred on 12-01 for the L&NW, the Caledonian,  
# and presumably other railways; the January 1848 Bradshaw's lists

many

# railways as using GMT. By 1855 the vast majority of public  
# clocks in Britain were set to GMT (though some, like the great clock  
# on Tom Tower at Christ Church, Oxford, were fitted with two minute hands,  
# one for local time and one for GMT). The last major holdout was the legal  
# system, which stubbornly stuck to local time for many years, leading  
# to oddities like polls opening at 08:13 and closing at 16:13.  
# The legal system finally switched to GMT when the Statutes (Definition  
# of Time) Act took effect; it received the Royal Assent on 1880-08-02.  
#  
# In the tables below, we condense this complicated story into a single  
# transition date for London, namely 1847-12-01. We don't know as much  
# about Dublin, so we use 1880-08-02, the legal transition time.

# From Paul Eggert (2003-09-27):

# Summer Time was first seriously proposed by William Willett (1857-1915),  
# a London builder and member of the Royal Astronomical Society  
# who circulated a pamphlet "The Waste  
# of Daylight" (1907)  
# that proposed advancing clocks 20 minutes on each of four Sundays in April,  
# and retarding them by the same amount on four Sundays in September.  
# A bill was drafted in 1909 and introduced in Parliament several times,  
# but it met with ridicule and opposition, especially from farming interests.  
# Later editions of the pamphlet proposed one-hour summer time, and  
# it was eventually adopted as a wartime measure in 1916.  
# See: Summer Time Arrives Early, The Times (2000-05-18).  
# A monument to Willett was unveiled on 1927-05-21, in an open space in  
# a 45-acre wood near Chislehurst, Kent that was purchased by popular  
# subscription and open to the public. On the south face of the monolith,  
# designed by G. W. Miller, is the...William Willett Memorial Sundial,  
# which is permanently set to Summer Time.

# From Winston Churchill (1934-04-28):

# It is one of the paradoxes of history that we should owe the boon of  
# summer time, which gives every year to the people of  
# this country  
# between 160 and 170 hours more daylight leisure, to a war which  
# plunged Europe into darkness for four years, and shook the  
# foundations of civilization throughout the world.  
# -- <http://www.winstonchurchill.org/fh114willett.htm>  
# "A Silent Toast to William Willett", Pictorial Weekly  
# </a>

# From Paul Eggert (1996-09-03):

# The OED Supplement says that the English originally said "Daylight Saving"  
# when they were debating the adoption of DST in 1908; but by 1916 this  
# term appears only in quotes taken from DST's opponents, whereas the  
# proponents (who eventually won the argument) are quoted as using "Summer".

# From Arthur David Olson (1989-01-19):

#

# A source at the British Information Office in New York avers that it's  
# known as "British" Summer Time in all parts of the United Kingdom.

# Date: 4 Jan 89 08:57:25 GMT (Wed)

# From: Jonathan Leffler

# [British Summer Time] is fixed annually by Act of Parliament.

# If you can predict what Parliament

will do, you should be in

# politics making a fortune, not computing.

# From Chris Carrier (1996-06-14):

# I remember reading in various wartime issues of the London Times the  
# acronym BDST for British Double Summer Time. Look for the published  
# time of sunrise and sunset in The Times, when BDST was in effect, and  
# if you find a zone reference it will say, "All times B.D.S.T."

# From Joseph S. Myers (1999-09-02):

# ... some military cables (WO 219/4100 - this is a copy from the  
# main SHAEF archives held in the US National Archives, SHAEF/5252/8/516)  
# agree that the usage is BDST (this appears in a message dated 17 Feb 1945).

# From Joseph S. Myers (2000-10-03):

# On 18th April 1941, Sir Stephen Tallents of the BBC wrote to Sir  
# Alexander Maxwell of the Home Office asking whether there was any  
# official designation; the reply of the 21st was that there wasn't  
# but he couldn't think of anything better than the "Double British  
# Summer Time" that the BBC had been using informally.

#

<http://student.cusu.cam.ac.uk/~jsm28/british-time/bbc-19410418.png>

# <http://student.cusu.cam.ac.uk/~jsm28/british-time/ho-19410421.png>

# From Sir Alexander Maxwell in the above-mentioned letter (1941-04-21):

# [N]o official designation has as far as I know been adopted for the time

# which is to be introduced in May....

# I cannot think of anything better than "Double British Summer Time"

# which could not be said to run counter to any official description.

# From Paul Eggert (2000-10-02):

# Howse writes (p 157) `DBST' too, but `BDST' seems to have been common

# and follows the more usual convention of putting the location name first,

# so we use `BDST'.

# Peter Ilieve (1998-04-19) described at length

# the history of summer time legislation in the United Kingdom.

# Since 1998 Joseph S. Myers has been updating



# and extending this list, which can be found in  
# <http://student.cusu.cam.ac.uk/~jsm28/british-time/>  
# <http://www.polyomino.org.uk/british-time/>  
# History  
# of legal time in Britain  
#   
# Rob Crowther (2012-01-04) reports that that URL no longer  
# exists, and the article can now be found at:  
# <http://www.polyomino.org.uk/british-time/>  
# <http://www.polyomino.org.uk/british-time/>  
#

# From Joseph S. Myers (1998-01-06):  
#  
# The legal time in the UK outside of summer time is definitely GMT, not UTC;  
# see Lord Tanlaw's speech  
# [http://www.parliament.the-stationery-office.co.uk/pa/ld199697/ldhansrd/pdvn/lds97/text/70611-20.htm#70611-20\\_head0](http://www.parliament.the-stationery-office.co.uk/pa/ld199697/ldhansrd/pdvn/lds97/text/70611-20.htm#70611-20_head0)  
# (Lords Hansard 11 June 1997 columns 964 to 976)  
# .

# From Paul Eggert (2006-03-22):  
#  
# For lack of other data, follow Shanks & Pottenger for Eire in 1940-1948.  
#  
# Given Ilieve and Myers's data, the following claims by Shanks & Pottenger  
# are incorrect:  
# \* Wales did not switch from GMT to daylight saving time until  
# 1921 Apr 3, when they began to conform with the rest of Great Britain.  
# Actually, Wales was identical after 1880.  
# \* Eire had two transitions  
# on 1916 Oct 1.  
# It actually just had one transition.  
# \* Northern Ireland used single daylight saving time throughout WW II.  
# Actually, it conformed to Britain.  
# \* GB-Eire changed standard time to 1 hour ahead of GMT on 1968-02-18.  
# Actually, that date saw the usual switch to summer time.  
# Standard time was not changed until 1968-10-27 (the clocks didn't change).  
#  
# Here is another incorrect claim by Shanks & Pottenger:  
# \* Jersey, Guernsey, and the Isle of Man did not switch from GMT  
# to daylight saving time until 1921 Apr 3, when they began to  
# conform with Great Britain.  
# S.R.&O. 1916, No. 382 and HO 45/10811/312364 (quoted above) say otherwise.  
#  
# The following claim by Shanks & Pottenger is possible though doubtful;  
# we'll ignore it for now.  
# \* Dublin's 1971-10-31 switch was at 02:00, even though London's was 03:00.

#  
#  
# Whitman says Dublin Mean Time was -0:25:21, which is more precise than  
# Shanks & Pottenger.  
# Perhaps this was Dunsink Observatory  
Time, as Dunsink Observatory  
# (8 km NW of Dublin's center) seemingly was to Dublin as Greenwich was  
# to London. For example:  
#  
# "Timeball on the ballast office is down. Dunsink time."  
# -- James Joyce, Ulysses

# From Joseph S. Myers (2005-01-26):  
# Irish laws are available online at [www.irishstatutebook.ie](http://www.irishstatutebook.ie). These include  
# various relating to legal time, for example:  
#  
# ZZA13Y1923.html ZZA12Y1924.html ZZA8Y1925.html ZZSIV20PG1267.html  
#  
# ZZSI71Y1947.html ZZSI128Y1948.html ZZSI23Y1949.html ZZSI41Y1950.html  
# ZZSI27Y1951.html ZZSI73Y1952.html  
#  
# ZZSI11Y1961.html ZZSI232Y1961.html ZZSI182Y1962.html  
# ZZSI167Y1963.html ZZSI257Y1964.html ZZSI198Y1967.html  
# ZZA23Y1968.html ZZA17Y1971.html  
#  
# ZZSI67Y1981.html ZZSI212Y1982.html ZZSI45Y1986.html  
# ZZSI264Y1988.html ZZSI52Y1990.html ZZSI371Y1992.html  
# ZZSI395Y1994.html ZZSI484Y1997.html ZZSI506Y2001.html  
#  
# [These are all relative to the root, e.g., the first is  
# <<http://www.irishstatutebook.ie/ZZA13Y1923.html>>.]  
#  
# (These are  
those I found, but there could be more. In any case these  
# should allow various updates to the comments in the europe file to cover  
# the laws applicable in Ireland.)  
#  
# (Note that the time in the Republic of Ireland since 1968 has been defined  
# in terms of standard time being GMT+1 with a period of winter time when it  
# is GMT, rather than standard time being GMT with a period of summer time  
# being GMT+1.)

# From Paul Eggert (1999-03-28):  
# Clive Feather (<[news:859845706.26043.0@office.demon.net](mailto:news:859845706.26043.0@office.demon.net)>, 1997-03-31)  
# reports that Folkestone (Cheriton) Shuttle Terminal uses Concession Time  
# (CT), equivalent to French civil time.  
# Julian Hill (<[news:36118128.5A14@virgin.net](mailto:news:36118128.5A14@virgin.net)>, 1998-09-30) reports that  
# trains between Dollands Moor (the freight facility next door)

# and Frethun run in CT.  
# My admittedly uninformed guess is that the terminal has two authorities,  
# the French concession operators and the British civil authorities,  
# and that the time depends on who you're talking to.  
#  
# If, say, the British police were called to the station for some reason,  
# I would expect the official police report to use GMT/BST and not CET/CEST.  
# This is a borderline case, but for now let's stick to GMT/BST.

# From an anonymous contributor (1996-06-02):  
# The law governing time in Ireland is under Statutory Instrument SI 395/94,  
# which gives force to European Union 7th Council Directive # 94/21/EC.  
# Under this directive, the Minister for Justice in Ireland makes appropriate  
# regulations. I spoke this morning with the Secretary of the Department of  
# Justice (tel +353 1 678 9711) who confirmed to me that the correct name is  
# "Irish Summer Time", abbreviated to "IST".

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

# Summer Time Act, 1916  
Rule GB-Eire 1916 only - May 21 2:00s 1:00 BST  
Rule GB-Eire 1916 only - Oct 1 2:00s 0 GMT  
# S.R.&O. 1917, No. 358  
Rule GB-Eire 1917 only - Apr 8 2:00s 1:00 BST  
Rule GB-Eire 1917 only - Sep 17 2:00s 0 GMT  
# S.R.&O. 1918, No. 274  
Rule GB-Eire 1918 only - Mar 24 2:00s 1:00 BST  
Rule GB-Eire 1918 only - Sep 30 2:00s 0 GMT  
#  
S.R.&O. 1919, No. 297  
Rule GB-Eire 1919 only - Mar 30 2:00s 1:00 BST  
Rule GB-Eire 1919 only - Sep 29 2:00s 0 GMT  
# S.R.&O. 1920, No. 458  
Rule GB-Eire 1920 only - Mar 28 2:00s 1:00 BST  
# S.R.&O. 1920, No. 1844  
Rule GB-Eire 1920 only - Oct 25 2:00s 0 GMT  
# S.R.&O. 1921, No. 363  
Rule GB-Eire 1921 only - Apr 3 2:00s 1:00 BST  
Rule GB-Eire 1921 only - Oct 3 2:00s 0 GMT  
# S.R.&O. 1922, No. 264  
Rule GB-Eire 1922 only - Mar 26 2:00s 1:00 BST  
Rule GB-Eire 1922 only - Oct 8 2:00s 0 GMT  
# The Summer Time Act, 1922  
Rule GB-Eire 1923 only - Apr Sun>=16 2:00s 1:00 BST  
Rule GB-Eire 1923 1924 - Sep Sun>=16 2:00s 0 GMT  
Rule GB-Eire 1924 only - Apr Sun>=9 2:00s 1:00 BST  
Rule GB-Eire 1925 1926 - Apr Sun>=16 2:00s 1:00 BST  
# The Summer Time Act, 1925  
Rule GB-Eire 1925 1938 - Oct Sun>=2 2:00s 0 GMT

Rule GB-Eire 1927 only - Apr Sun>=9 2:00s 1:00 BST  
 Rule GB-Eire 1928 1929 - Apr Sun>=16 2:00s 1:00 BST  
 Rule GB-Eire 1930 only - Apr Sun>=9 2:00s 1:00 BST  
 Rule GB-Eire 1931 1932 - Apr Sun>=16 2:00s 1:00 BST  
 Rule GB-Eire 1933 only - Apr Sun>=9 2:00s 1:00 BST  
 Rule GB-Eire 1934 only - Apr Sun>=16 2:00s 1:00 BST  
 Rule GB-Eire 1935 only - Apr Sun>=9 2:00s 1:00 BST  
 Rule GB-Eire 1936 1937 - Apr Sun>=16 2:00s 1:00 BST  
 Rule GB-Eire 1938 only - Apr Sun>=9 2:00s 1:00 BST  
 Rule GB-Eire 1939 only - Apr Sun>=16 2:00s 1:00 BST  
 #  
 S.R.&O. 1939, No. 1379  
 Rule GB-Eire 1939 only - Nov Sun>=16 2:00s 0 GMT  
 # S.R.&O. 1940, No. 172 and No. 1883  
 Rule GB-Eire 1940 only - Feb Sun>=23 2:00s 1:00 BST  
 # S.R.&O. 1941, No. 476  
 Rule GB-Eire 1941 only - May Sun>=2 1:00s 2:00 BDST  
 Rule GB-Eire 1941 1943 - Aug Sun>=9 1:00s 1:00 BST  
 # S.R.&O. 1942, No. 506  
 Rule GB-Eire 1942 1944 - Apr Sun>=2 1:00s 2:00 BDST  
 # S.R.&O. 1944, No. 932  
 Rule GB-Eire 1944 only - Sep Sun>=16 1:00s 1:00 BST  
 # S.R.&O. 1945, No. 312  
 Rule GB-Eire 1945 only - Apr Mon>=2 1:00s 2:00 BDST  
 Rule GB-Eire 1945 only - Jul Sun>=9 1:00s 1:00 BST  
 # S.R.&O. 1945, No. 1208  
 Rule GB-Eire 1945 1946 - Oct Sun>=2 2:00s 0 GMT  
 Rule GB-Eire 1946 only - Apr Sun>=9 2:00s 1:00 BST  
 #  
 The Summer Time Act, 1947  
 Rule GB-Eire 1947 only - Mar 16 2:00s 1:00 BST  
 Rule GB-Eire 1947 only - Apr 13 1:00s 2:00 BDST  
 Rule GB-Eire 1947 only - Aug 10 1:00s 1:00 BST  
 Rule GB-Eire 1947 only - Nov 2 2:00s 0 GMT  
 # Summer Time Order, 1948 (S.I. 1948/495)  
 Rule GB-Eire 1948 only - Mar 14 2:00s 1:00 BST  
 Rule GB-Eire 1948 only - Oct 31 2:00s 0 GMT  
 # Summer Time Order, 1949 (S.I. 1949/373)  
 Rule GB-Eire 1949 only - Apr 3 2:00s 1:00 BST  
 Rule GB-Eire 1949 only - Oct 30 2:00s 0 GMT  
 # Summer Time Order, 1950 (S.I. 1950/518)  
 # Summer Time Order, 1951 (S.I. 1951/430)  
 # Summer Time Order, 1952 (S.I. 1952/451)  
 Rule GB-Eire 1950 1952 - Apr Sun>=14 2:00s 1:00 BST  
 Rule GB-Eire 1950 1952 - Oct Sun>=21 2:00s 0 GMT  
 # revert to the rules of the Summer Time Act, 1925  
 Rule GB-Eire 1953 only - Apr Sun>=16 2:00s 1:00 BST  
 Rule GB-Eire 1953 1960 - Oct Sun>=2 2:00s 0 GMT

Rule GB-Eire 1954 only - Apr Sun>=9 2:00s 1:00 BST  
 Rule GB-Eire 1955 1956 - Apr Sun>=16 2:00s 1:00 BST  
 Rule GB-Eire 1957 only - Apr Sun>=9 2:00s 1:00 BST  
 Rule GB-Eire 1958 1959 - Apr Sun>=16 2:00s 1:00 BST  
 Rule GB-Eire 1960 only - Apr Sun>=9 2:00s 1:00 BST  
 #  
 Summer Time Order, 1961 (S.I. 1961/71)  
 # Summer Time (1962) Order, 1961 (S.I. 1961/2465)  
 # Summer Time Order, 1963 (S.I. 1963/81)  
 Rule GB-Eire 1961 1963 - Mar lastSun 2:00s 1:00 BST  
 Rule GB-Eire 1961 1968 - Oct Sun>=23 2:00s 0 GMT  
 # Summer Time (1964) Order, 1963 (S.I. 1963/2101)  
 # Summer Time Order, 1964 (S.I. 1964/1201)  
 # Summer Time Order, 1967 (S.I. 1967/1148)  
 Rule GB-Eire 1964 1967 - Mar Sun>=19 2:00s 1:00 BST  
 # Summer Time Order, 1968 (S.I. 1968/117)  
 Rule GB-Eire 1968 only - Feb 18 2:00s 1:00 BST  
 # The British Standard Time Act, 1968  
 # (no summer time)  
 # The Summer Time Act, 1972  
 Rule GB-Eire 1972 1980 - Mar Sun>=16 2:00s 1:00 BST  
 Rule GB-Eire 1972 1980 - Oct Sun>=23 2:00s 0 GMT  
 # Summer Time Order, 1980 (S.I. 1980/1089)  
 # Summer Time Order, 1982 (S.I. 1982/1673)  
 # Summer Time Order,  
 1986 (S.I. 1986/223)  
 # Summer Time Order, 1988 (S.I. 1988/931)  
 Rule GB-Eire 1981 1995 - Mar lastSun 1:00u 1:00 BST  
 Rule GB-Eire 1981 1989 - Oct Sun>=23 1:00u 0 GMT  
 # Summer Time Order, 1989 (S.I. 1989/985)  
 # Summer Time Order, 1992 (S.I. 1992/1729)  
 # Summer Time Order 1994 (S.I. 1994/2798)  
 Rule GB-Eire 1990 1995 - Oct Sun>=22 1:00u 0 GMT  
 # Summer Time Order 1997 (S.I. 1997/2982)  
 # See EU for rules starting in 1996.  
  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Europe/London -0:01:15 - LMT 1847 Dec 1 0:00s  
 0:00 GB-Eire %s 1968 Oct 27  
 1:00 - BST 1971 Oct 31 2:00u  
 0:00 GB-Eire %s 1996  
 0:00 EU GMT/BST  
 Link Europe/London Europe/Jersey  
 Link Europe/London Europe/Guernsey  
 Link Europe/London Europe/Isle\_of\_Man  
 Zone Europe/Dublin -0:25:00 - LMT 1880 Aug 2  
 -0:25:21 - DMT 1916 May 21 2:00  
 -0:25:21 1:00 IST 1916 Oct 1 2:00s

0:00 GB-Eire %s 1921 Dec 6 # independence  
0:00 GB-Eire GMT/IST 1940 Feb 25 2:00  
0:00 1:00 IST 1946 Oct 6 2:00  
0:00 - GMT 1947 Mar 16  
2:00  
0:00 1:00 IST 1947 Nov 2 2:00  
0:00 - GMT 1948 Apr 18 2:00  
0:00 GB-Eire GMT/IST 1968 Oct 27  
1:00 - IST 1971 Oct 31 2:00u  
0:00 GB-Eire GMT/IST 1996  
0:00 EU GMT/IST

#####

# Europe

# EU rules are for the European Union, previously known as the EC, EEC,  
# Common Market, etc.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule EU 1977 1980 - Apr Sun>=1 1:00u 1:00 S

Rule EU 1977 only - Sep lastSun 1:00u 0 -

Rule EU 1978 only - Oct 1 1:00u 0 -

Rule EU 1979 1995 - Sep lastSun 1:00u 0 -

Rule EU 1981 max - Mar lastSun 1:00u 1:00 S

Rule EU 1996 max - Oct lastSun 1:00u 0 -

# The most recent directive covers the years starting in 2002. See:

# <a="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000L0084:EN:NOT">

# Directive 2000/84/EC of the European Parliament and of the Council

# of 19 January 2001 on summer-time arrangements.

# </a>

# W-Eur differs from EU only in that

W-Eur uses standard time.

Rule W-Eur 1977 1980 - Apr Sun>=1 1:00s 1:00 S

Rule W-Eur 1977 only - Sep lastSun 1:00s 0 -

Rule W-Eur 1978 only - Oct 1 1:00s 0 -

Rule W-Eur 1979 1995 - Sep lastSun 1:00s 0 -

Rule W-Eur 1981 max - Mar lastSun 1:00s 1:00 S

Rule W-Eur 1996 max - Oct lastSun 1:00s 0 -

# Older C-Eur rules are for convenience in the tables.

# From 1977 on, C-Eur differs from EU only in that C-Eur uses standard time.

Rule C-Eur 1916 only - Apr 30 23:00 1:00 S

Rule C-Eur 1916 only - Oct 1 1:00 0 -

Rule C-Eur 1917 1918 - Apr Mon>=15 2:00s 1:00 S

Rule C-Eur 1917 1918 - Sep Mon>=15 2:00s 0 -

Rule C-Eur 1940 only - Apr 1 2:00s 1:00 S

```

Rule C-Eur 1942 only - Nov 2 2:00s 0 -
Rule C-Eur 1943 only - Mar 29 2:00s 1:00 S
Rule C-Eur 1943 only - Oct 4 2:00s 0 -
Rule C-Eur 1944 1945 - Apr Mon>=1 2:00s 1:00 S
# Whitman gives 1944 Oct 7; go with Shanks & Pottenger.
Rule C-Eur 1944 only - Oct 2 2:00s 0 -
# From Jesper Norgaard Welen (2008-07-13):
#
# I found what is probably
# a typo of 2:00 which should perhaps be 2:00s
# in the C-Eur rule from tz database version 2008d (this part was
# corrected in version 2008d). The circumstantial evidence is simply the
# tz database itself, as seen below:
#
# Zone Europe/Paris 0:09:21 - LMT 1891 Mar 15 0:01
# 0:00 France WE%sT 1945 Sep 16 3:00
#
# Zone Europe/Monaco 0:29:32 - LMT 1891 Mar 15
# 0:00 France WE%sT 1945 Sep 16 3:00
#
# Zone Europe/Belgrade 1:22:00 - LMT 1884
# 1:00 1:00 CEST 1945 Sep 16 2:00s
#
# Rule France 1945 only - Sep 16 3:00 0 -
# Rule Belgium 1945 only - Sep 16 2:00s 0 -
# Rule Neth 1945 only - Sep 16 2:00s 0 -
#
# The rule line to be changed is:
#
# Rule C-Eur 1945 only - Sep 16 2:00 0 -
#
# It seems that Paris, Monaco, Rule France, Rule Belgium all agree on
# 2:00 standard time, e.g. 3:00 local time. However there are no
# countries that use C-Eur rules in September 1945, so the only items
# affected are apparently these fictitious zones that translates acronyms
# CET and MET:
#
#
# Zone CET 1:00 C-Eur CE%sT
# Zone MET 1:00 C-Eur ME%sT
#
# If this is right then the corrected version would look like:
#
# Rule C-Eur 1945 only - Sep 16 2:00s 0 -
#
# A small step for mankind though 8-)
Rule C-Eur 1945 only - Sep 16 2:00s 0 -
Rule C-Eur 1977 1980 - Apr Sun>=1 2:00s 1:00 S

```

Rule C-Eur 1977 only - Sep lastSun 2:00s 0 -  
Rule C-Eur 1978 only - Oct 1 2:00s 0 -  
Rule C-Eur 1979 1995 - Sep lastSun 2:00s 0 -  
Rule C-Eur 1981 max - Mar lastSun 2:00s 1:00 S  
Rule C-Eur 1996 max - Oct lastSun 2:00s 0 -

# E-Eur differs from EU only in that E-Eur switches at midnight local time.

Rule E-Eur 1977 1980 - Apr Sun>=1 0:00 1:00 S  
Rule E-Eur 1977 only - Sep lastSun 0:00 0 -  
Rule E-Eur 1978 only - Oct 1 0:00 0 -  
Rule E-Eur 1979 1995 - Sep lastSun 0:00 0 -  
Rule E-Eur 1981 max - Mar lastSun 0:00 1:00 S  
Rule E-Eur 1996 max - Oct lastSun 0:00 0 -

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Russia 1917 only - Jul 1 23:00 1:00 MST # Moscow Summer Time  
Rule Russia 1917 only - Dec 28  
0:00 0 MMT # Moscow Mean Time  
Rule Russia 1918 only - May 31 22:00 2:00 MDST # Moscow Double Summer Time  
Rule Russia 1918 only - Sep 16 1:00 1:00 MST  
Rule Russia 1919 only - May 31 23:00 2:00 MDST  
Rule Russia 1919 only - Jul 1 2:00 1:00 S  
Rule Russia 1919 only - Aug 16 0:00 0 -  
Rule Russia 1921 only - Feb 14 23:00 1:00 S  
Rule Russia 1921 only - Mar 20 23:00 2:00 M # Midsummer  
Rule Russia 1921 only - Sep 1 0:00 1:00 S  
Rule Russia 1921 only - Oct 1 0:00 0 -  
# Act No.925 of the Council of Ministers of the USSR (1980-10-24):  
Rule Russia 1981 1984 - Apr 1 0:00 1:00 S  
Rule Russia 1981 1983 - Oct 1 0:00 0 -  
# Act No.967 of the Council of Ministers of the USSR (1984-09-13), repeated in  
# Act No.227 of the Council of Ministers of the USSR (1989-03-14):  
Rule Russia 1984 1991 - Sep lastSun 2:00s 0 -  
Rule Russia 1985 1991 - Mar lastSun 2:00s 1:00 S  
#  
Rule Russia 1992 only - Mar lastSat 23:00 1:00 S  
Rule Russia 1992 only - Sep lastSat 23:00 0 -  
Rule Russia 1993 2010 - Mar lastSun  
2:00s 1:00 S  
Rule Russia 1993 1995 - Sep lastSun 2:00s 0 -  
Rule Russia 1996 2010 - Oct lastSun 2:00s 0 -

# From Alexander Krivenyshev (2011-06-14):

# According to Kremlin press service, Russian President Dmitry Medvedev

# signed a federal law "On calculation of time" on June 9, 2011.

# According to the law Russia is abolishing daylight saving time.

#

# Medvedev signed a law "On the Calculation of Time" (in russian):



```
# <a href="http://bmockbe.ru/events/?ID=7583">
# http://bmockbe.ru/events/?ID=7583
# </a>
#
# Medvedev signed a law on the calculation of the time (in russian):
# <a href="http://www.regnum.ru/news/polit/1413906.html">
# http://www.regnum.ru/news/polit/1413906.html
# </a>

# From Arthur David Olson (2011-06-15):
# Take "abolishing daylight saving time" to mean that time is now considered
# to be standard.

# These are for backward compatibility with older versions.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone WET 0:00 EU WE%sT
Zone CET 1:00 C-Eur CE%sT
Zone MET 1:00 C-Eur ME%sT
Zone EET 2:00 EU EE%sT

#
# Previous editions of this database used abbreviations like MET DST
# for Central European Summer Time, but this didn't agree with common usage.

# From Markus Kuhn (1996-07-12):
# The official German names ... are
#
# Mitteleuropaeische Zeit (MEZ) = UTC+01:00
# Mitteleuropaeische Sommerzeit (MESZ) = UTC+02:00
#
# as defined in the German Time Act (Gesetz ueber die Zeitbestimmung (ZeitG),
# 1978-07-25, Bundesgesetzblatt, Jahrgang 1978, Teil I, S. 1110-1111)....
# I wrote ... to the German Federal Physical-Technical Institution
#
# Physikalisch-Technische Bundesanstalt (PTB)
# Laboratorium 4.41 "Zeiteinheit"
# Postfach 3345
# D-38023 Braunschweig
# phone: +49 531 592-0
#
# ... I received today an answer letter from Dr. Peter Hetzel, head of the PTB
# department for time and frequency transmission. He explained that the
# PTB translates MEZ and MESZ into English as
#
# Central European Time (CET) = UTC+01:00
# Central
```

European Summer Time (CEST) = UTC+02:00

```
# Albania
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Albania 1940 only - Jun 16 0:00 1:00 S
Rule Albania 1942 only - Nov 2 3:00 0 -
Rule Albania 1943 only - Mar 29 2:00 1:00 S
Rule Albania 1943 only - Apr 10 3:00 0 -
Rule Albania 1974 only - May 4 0:00 1:00 S
Rule Albania 1974 only - Oct 2 0:00 0 -
Rule Albania 1975 only - May 1 0:00 1:00 S
Rule Albania 1975 only - Oct 2 0:00 0 -
Rule Albania 1976 only - May 2 0:00 1:00 S
Rule Albania 1976 only - Oct 3 0:00 0 -
Rule Albania 1977 only - May 8 0:00 1:00 S
Rule Albania 1977 only - Oct 2 0:00 0 -
Rule Albania 1978 only - May 6 0:00 1:00 S
Rule Albania 1978 only - Oct 1 0:00 0 -
Rule Albania 1979 only - May 5 0:00 1:00 S
Rule Albania 1979 only - Sep 30 0:00 0 -
Rule Albania 1980 only - May 3 0:00 1:00 S
Rule Albania 1980 only - Oct 4 0:00 0 -
Rule Albania 1981 only - Apr 26 0:00 1:00 S
Rule Albania 1981 only - Sep 27 0:00 0 -
Rule Albania 1982 only - May 2 0:00 1:00 S
Rule Albania 1982 only - Oct
3 0:00 0 -
Rule Albania 1983 only - Apr 18 0:00 1:00 S
Rule Albania 1983 only - Oct 1 0:00 0 -
Rule Albania 1984 only - Apr 1 0:00 1:00 S
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Europe/Tirane 1:19:20 - LMT 1914
1:00 - CET 1940 Jun 16
1:00 Albania CE%sT 1984 Jul
1:00 EU CE%sT

# Andorra
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Europe/Andorra 0:06:04 - LMT 1901
0:00 - WET 1946 Sep 30
1:00 - CET 1985 Mar 31 2:00
1:00 EU CE%sT

# Austria

# Milne says Vienna time was 1:05:21.
```

# From Paul Eggert (2006-03-22): Shanks & Pottenger give 1918-06-16 and  
# 1945-11-18, but the Austrian Federal Office of Metrology and  
# Surveying (BEV) gives 1918-09-16 and for Vienna gives the "alleged"  
# date of 1945-04-12 with no time. For the 1980-04-06 transition  
# Shanks & Pottenger give 02:00, the BEV 00:00. Go with the BEV,  
# and guess 02:00 for 1945-04-12.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Austria 1920 only - Apr 5 2:00s 1:00 S

Rule Austria 1920 only - Sep 13 2:00s 0 -

Rule Austria 1946 only - Apr 14 2:00s 1:00 S

Rule Austria 1946 1948 - Oct Sun>=1 2:00s 0 -

Rule Austria 1947 only - Apr

6 2:00s 1:00 S

Rule Austria 1948 only - Apr 18 2:00s 1:00 S

Rule Austria 1980 only - Apr 6 0:00 1:00 S

Rule Austria 1980 only - Sep 28 0:00 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Europe/Vienna 1:05:21 - LMT 1893 Apr

1:00 C-Eur CE%sT 1920

1:00 Austria CE%sT 1940 Apr 1 2:00s

1:00 C-Eur CE%sT 1945 Apr 2 2:00s

1:00 1:00 CEST 1945 Apr 12 2:00s

1:00 - CET 1946

1:00 Austria CE%sT 1981

1:00 EU CE%sT

# Belarus

# From Yauhen Kharuzhy (2011-09-16):

# By latest Belarus government act Europe/Minsk timezone was changed to

# GMT+3 without DST (was GMT+2 with DST).

#

# Sources (Russian language):

# 1.

# <a href="http://www.belta.by/ru/all\_news/society/V-Belarusi-otmenjaetsja-perexod-na-sezonnoe-vremja\_i\_572952.html">

# http://www.belta.by/ru/all\_news/society/V-Belarusi-otmenjaetsja-perexod-na-sezonnoe-vremja\_i\_572952.html

#

</a>

# 2.

# <a href="http://naviny.by/rubrics/society/2011/09/16/ic\_articles\_116\_175144/">

# http://naviny.by/rubrics/society/2011/09/16/ic\_articles\_116\_175144/

# </a>

# 3.

# <a href="http://news.tut.by/society/250578.html">

# http://news.tut.by/society/250578.html

# </a>

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Europe/Minsk 1:50:16 - LMT 1880  
1:50 - MMT 1924 May 2 # Minsk Mean Time  
2:00 - EET 1930 Jun 21  
3:00 - MSK 1941 Jun 28  
1:00 C-Eur CE%ST 1944 Jul 3  
3:00 Russia MSK/MSD 1990  
3:00 - MSK 1991 Mar 31 2:00s  
2:00 1:00 EEST 1991 Sep 29 2:00s  
2:00 - EET 1992 Mar 29 0:00s  
2:00 1:00 EEST 1992 Sep 27 0:00s  
2:00 Russia EE%ST 2011 Mar 27 2:00s  
3:00 - FET # Further-eastern European Time

# Belgium

#

# From Paul Eggert (1997-07-02):

# Entries from 1918 through 1991 are taken from:

# Annuaire de L'Observatoire Royal de Belgique,

# Avenue Circulaire, 3, B-1180 BRUXELLES, CLVIIe annee, 1991

# (Imprimerie HAYEZ, s.p.r.l., Rue Fin, 4, 1080 BRUXELLES,  
MCMXC),

# pp 8-9.

# LMT before 1892 was 0:17:30, according to the official journal of Belgium:

# Moniteur Belge, Samedi 30 Avril 1892, N.121.

# Thanks to Pascal Delmoitie for these references.

# The 1918 rules are listed for completeness; they apply to unoccupied Belgium.

# Assume Brussels switched to WET in 1918 when the armistice took effect.

#

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Belgium 1918 only - Mar 9 0:00s 1:00 S

Rule Belgium 1918 1919 - Oct Sat>=1 23:00s 0 -

Rule Belgium 1919 only - Mar 1 23:00s 1:00 S

Rule Belgium 1920 only - Feb 14 23:00s 1:00 S

Rule Belgium 1920 only - Oct 23 23:00s 0 -

Rule Belgium 1921 only - Mar 14 23:00s 1:00 S

Rule Belgium 1921 only - Oct 25 23:00s 0 -

Rule Belgium 1922 only - Mar 25 23:00s 1:00 S

Rule Belgium 1922 1927 - Oct Sat>=1 23:00s 0 -

Rule Belgium 1923 only - Apr 21 23:00s 1:00 S

Rule Belgium 1924 only - Mar 29 23:00s 1:00 S

Rule Belgium 1925 only - Apr 4 23:00s 1:00 S

# DSH writes that a royal decree of 1926-02-22  
specified the Sun following 3rd

# Sat in Apr (except if it's Easter, in which case it's one Sunday earlier),

# to Sun following 1st Sat in Oct, and that a royal decree of 1928-09-15

# changed the transition times to 02:00 GMT.

Rule Belgium 1926 only - Apr 17 23:00s 1:00 S

Rule Belgium 1927 only - Apr 9 23:00s 1:00 S

Rule Belgium 1928 only - Apr 14 23:00s 1:00 S  
 Rule Belgium 1928 1938 - Oct Sun>=2 2:00s 0 -  
 Rule Belgium 1929 only - Apr 21 2:00s 1:00 S  
 Rule Belgium 1930 only - Apr 13 2:00s 1:00 S  
 Rule Belgium 1931 only - Apr 19 2:00s 1:00 S  
 Rule Belgium 1932 only - Apr 3 2:00s 1:00 S  
 Rule Belgium 1933 only - Mar 26 2:00s 1:00 S  
 Rule Belgium 1934 only - Apr 8 2:00s 1:00 S  
 Rule Belgium 1935 only - Mar 31 2:00s 1:00 S  
 Rule Belgium 1936 only - Apr 19 2:00s 1:00 S  
 Rule Belgium 1937 only - Apr 4 2:00s 1:00 S  
 Rule Belgium 1938 only - Mar 27 2:00s 1:00 S  
 Rule Belgium 1939 only - Apr 16 2:00s 1:00 S  
 Rule Belgium 1939 only - Nov 19 2:00s 0 -  
 Rule Belgium 1940 only - Feb 25 2:00s 1:00 S  
 Rule Belgium 1944 only - Sep 17  
 2:00s 0 -  
 Rule Belgium 1945 only - Apr 2 2:00s 1:00 S  
 Rule Belgium 1945 only - Sep 16 2:00s 0 -  
 Rule Belgium 1946 only - May 19 2:00s 1:00 S  
 Rule Belgium 1946 only - Oct 7 2:00s 0 -  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Europe/Brussels 0:17:30 - LMT 1880  
 0:17:30 - BMT 1892 May 1 12:00 # Brussels MT  
 0:00 - WET 1914 Nov 8  
 1:00 - CET 1916 May 1 0:00  
 1:00 C-Eur CE%sT 1918 Nov 11 11:00u  
 0:00 Belgium WE%sT 1940 May 20 2:00s  
 1:00 C-Eur CE%sT 1944 Sep 3  
 1:00 Belgium CE%sT 1977  
 1:00 EU CE%sT

# Bosnia and Herzegovina

# see Serbia

# Bulgaria

#

# From Plamen Simenov via Steffen Thorsen (1999-09-09):

# A document of Government of Bulgaria (No.94/1997) says:

# EET --> EETDST is in 03:00 Local time in last Sunday of March ...

# EETDST --> EET is in 04:00 Local time in last Sunday of October

#

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Bulg 1979 only - Mar 31 23:00 1:00 S

Rule Bulg 1979 only - Oct 1 1:00 0 -

Rule Bulg 1980 1982 - Apr Sat>=1 23:00 1:00 S

Rule Bulg 1980 only - Sep 29

1:00 0 -  
Rule Bulg 1981 only - Sep 27 2:00 0 -  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Europe/Sofia 1:33:16 - LMT 1880  
1:56:56 - IMT 1894 Nov 30 # Istanbul MT?  
2:00 - EET 1942 Nov 2 3:00  
1:00 C-Eur CE%sT 1945  
1:00 - CET 1945 Apr 2 3:00  
2:00 - EET 1979 Mar 31 23:00  
2:00 Bulg EE%sT 1982 Sep 26 2:00  
2:00 C-Eur EE%sT 1991  
2:00 E-Eur EE%sT 1997  
2:00 EU EE%sT

# Croatia  
# see Serbia

# Cyprus  
# Please see the `asia' file for Asia/Nicosia.

# Czech Republic  
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Czech 1945 only - Apr 8 2:00s 1:00 S  
Rule Czech 1945 only - Nov 18 2:00s 0 -  
Rule Czech 1946 only - May 6 2:00s 1:00 S  
Rule Czech 1946 1949 - Oct Sun>=1 2:00s 0 -  
Rule Czech 1947 only - Apr 20 2:00s 1:00 S  
Rule Czech 1948 only - Apr 18 2:00s 1:00 S  
Rule Czech 1949 only - Apr 9 2:00s 1:00 S  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Europe/Prague 0:57:44 - LMT 1850  
0:57:44 - PMT 1891  
Oct # Prague Mean Time  
1:00 C-Eur CE%sT 1944 Sep 17 2:00s  
1:00 Czech CE%sT 1979  
1:00 EU CE%sT

# Denmark, Faroe Islands, and Greenland

# From Jesper Norgaard Welen (2005-04-26):  
# <http://www.hum.aau.dk/~poe/tid/tine/DanskTid.htm> says that the law  
# [introducing standard time] was in effect from 1894-01-01....  
# The page [http://www.retsinfo.dk/\\_GETDOCI\\_/ACCN/A18930008330-REGL](http://www.retsinfo.dk/_GETDOCI_/ACCN/A18930008330-REGL)  
# confirms this, and states that the law was put forth 1893-03-29.  
#  
# The EU treaty with effect from 1973:  
# [http://www.retsinfo.dk/\\_GETDOCI\\_/ACCN/A19722110030-REGL](http://www.retsinfo.dk/_GETDOCI_/ACCN/A19722110030-REGL)  
#

```

# This provoked a new law from 1974 to make possible summer time changes
# in subsequent decrees with the law
# http://www.retsinfo.dk/_GETDOCI_/ACCN/A19740022330-REGL
#
# It seems however that no decree was set forward until 1980. I have
# not found any decree, but in another related law, the effecting DST
# changes are stated explicitly to be from 1980-04-06 at 02:00 to
# 1980-09-28 at 02:00. If this is true, this
# differs slightly from
# the EU rule in that DST runs to 02:00, not 03:00. We don't know
# when Denmark began using the EU rule correctly, but we have only
# confirmation of the 1980-time, so I presume it was correct in 1981:
# The law is about the management of the extra hour, concerning
# working hours reported and effect on obligatory-rest rules (which
# was suspended on that night):
# http://www.retsinfo.dk/_GETDOCI_/ACCN/C19801120554-REGL

# From Jesper Norgaard Welen (2005-06-11):
# The Herning Folkeblad (1980-09-26) reported that the night between
# Saturday and Sunday the clock is set back from three to two.

# From Paul Eggert (2005-06-11):
# Hence the "02:00" of the 1980 law refers to standard time, not
# wall-clock time, and so the EU rules were in effect in 1980.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Denmark 1916 only - May 14 23:00 1:00 S
Rule Denmark 1916 only - Sep 30 23:00 0 -
Rule Denmark 1940 only - May 15 0:00 1:00 S
Rule Denmark 1945 only - Apr
  2 2:00s 1:00 S
Rule Denmark 1945 only - Aug 15 2:00s 0 -
Rule Denmark 1946 only - May 1 2:00s 1:00 S
Rule Denmark 1946 only - Sep 1 2:00s 0 -
Rule Denmark 1947 only - May 4 2:00s 1:00 S
Rule Denmark 1947 only - Aug 10 2:00s 0 -
Rule Denmark 1948 only - May 9 2:00s 1:00 S
Rule Denmark 1948 only - Aug 8 2:00s 0 -
#
# Zone NAME GMTTOFF RULES FORMAT [UNTIL]
Zone Europe/Copenhagen 0:50:20 - LMT 1890
  0:50:20 - CMT 1894 Jan 1 # Copenhagen MT
  1:00 Denmark CE%sT 1942 Nov 2 2:00s
  1:00 C-Eur CE%sT 1945 Apr 2 2:00
  1:00 Denmark CE%sT 1980
  1:00 EU CE%sT
Zone Atlantic/Faroe -0:27:04 - LMT 1908 Jan 11 # Torshavn
  0:00 - WET 1981

```

0:00 EU WE%ST

#

# From Paul Eggert (2004-10-31):

# During World War II, Germany maintained secret manned weather stations in  
# East Greenland and Franz Josef Land, but we don't know their time zones.

# My source for this is Wilhelm Dege's book mentioned under Svalbard.

#

# From Paul Eggert (2006-03-22):

# Greenland joined the EU as

part of Denmark, obtained home rule on 1979-05-01,

# and left the EU on 1985-02-01. It therefore should have been using EU

# rules at least through 1984. Shanks & Pottenger say Scoresbysund and Godthab

# used C-Eur rules after 1980, but IATA SSIM (1991/1996) says they use EU

# rules since at least 1991. Assume EU rules since 1980.

# From Gwillin Law (2001-06-06), citing

# <<http://www.statkart.no/efs/efshefter/2001/efs5-2001.pdf>> (2001-03-15),

# and with translations corrected by Steffen Thorsen:

#

# Greenland has four local times, and the relation to UTC

# is according to the following time line:

#

# The military zone near Thule UTC-4

# Standard Greenland time UTC-3

# Scoresbysund UTC-1

# Danmarkshavn UTC

#

# In the military area near Thule and in Danmarkshavn DST will not be

# introduced.

# From Rives McDow (2001-11-01):

#

# I correspond regularly with the Dansk Polarcenter, and wrote them at

# the time to clarify the situation in Thule. Unfortunately, I have

# not heard back

from them regarding my recent letter. [But I have

# info from earlier correspondence.]

#

# According to the center, a very small local time zone around Thule

# Air Base keeps the time according to UTC-4, implementing daylight

# savings using North America rules, changing the time at 02:00 local time....

#

# The east coast of Greenland north of the community of Scoresbysund

# uses UTC in the same way as in Iceland, year round, with no dst.

# There are just a few stations on this coast, including the

# Danmarkshavn ICAO weather station mentioned in your September 29th

# email. The other stations are two sledge patrol stations in

# Mestersvig and Daneborg, the air force base at Station Nord, and the



```

# DPC research station at Zackenberg.
#
# Scoresbysund and two small villages nearby keep time UTC-1 and use
# the same daylight savings time period as in West Greenland (Godthab).
#
# The rest of Greenland, including Godthab (this area, although it
# includes central Greenland, is known as
# west Greenland), keeps time
# UTC-3, with daylight savings methods according to European rules.
#
# It is common procedure to use UTC 0 in the wilderness of East and
# North Greenland, because it is mainly Icelandic aircraft operators
# maintaining traffic in these areas. However, the official status of
# this area is that it sticks with Godthab time. This area might be
# considered a dual time zone in some respects because of this.

# From Rives McDow (2001-11-19):
# I heard back from someone stationed at Thule; the time change took place
# there at 2:00 AM.

# From Paul Eggert (2006-03-22):
# From 1997 on the CIA map shows Danmarkshavn on GMT;
# the 1995 map as like Godthab.
# For lack of better info, assume they were like Godthab before 1996.
# startkart.no says Thule does not observe DST, but this is clearly an error,
# so go with Shanks & Pottenger for Thule transitions until this year.
# For 2007 on assume Thule will stay in sync with US DST rules.
#
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Thule 1991 1992 - Mar lastSun 2:00 1:00 D
Rule Thule 1991 1992 - Sep lastSun 2:00 0 S
Rule Thule 1993 2006 - Apr Sun>=1 2:00 1:00 D
Rule Thule 1993 2006 - Oct lastSun 2:00 0 S
Rule Thule 2007 max - Mar Sun>=8 2:00 1:00 D
Rule Thule 2007 max - Nov Sun>=1 2:00 0 S
#
#
Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone America/Danmarkshavn -1:14:40 - LMT 1916 Jul 28
-3:00 - WGT 1980 Apr 6 2:00
-3:00 EU WG%sT 1996
0:00 - GMT
Zone America/Scoresbysund -1:27:52 - LMT 1916 Jul 28 # Ittoqqortoormiit
-2:00 - CGT 1980 Apr 6 2:00
-2:00 C-Eur CG%sT 1981 Mar 29
-1:00 EU EG%sT
Zone America/Godthab -3:26:56 - LMT 1916 Jul 28 # Nuuk
-3:00 - WGT 1980 Apr 6 2:00

```

-3:00 EU WG%ST  
Zone America/Thule -4:35:08 - LMT 1916 Jul 28 # Pituffik air base  
-4:00 Thule A%ST

# Estonia

# From Peter Ilieve (1994-10-15):

# A relative in Tallinn confirms the accuracy of the data for 1989 onwards  
# [through 1994] and gives the legal authority for it,  
# a regulation of the Government  
# of Estonia, No. 111 of 1989....

#

# From Peter Ilieve (1996-10-28):

# [IATA SSIM (1992/1996) claims that the Baltic republics switch at 01:00s,  
# but a relative confirms that Estonia still switches at 02:00s, writing:]  
# ``I do not [know] exactly but there are some little different  
# (confusing) rules for International Air and Railway Transport Schedules  
# conversion in Sunday connected with end of summer time in Estonia....  
# A discussion is running about the summer time efficiency and effect on  
# human physiology. It seems that Estonia maybe will not change to  
# summer time next spring."

# From Peter Ilieve (1998-11-04), heavily edited:

# <a href="http://trip.rk.ee/cgi-bin/thw?\${BASE}=akt&\${OOHTML}=rtd&TA=1998&TO=1&AN=1390">

# The 1998-09-22 Estonian time law

# </a>

# refers to the Eighth Directive and cites the association agreement between  
# the EU and Estonia, ratified by the Estonian law (RT II 1995, 22--27, 120).

#

# I also asked [my relative] whether they use any standard  
# abbreviation

# for their standard and summer times. He says no, they use "suveaeg"  
# (summer time) and "talveaeg" (winter time).

# From <a href="http://www.baltictimes.com/">The Baltic Times</a> (1999-09-09)

# via Steffen Thorsen:

# This year will mark the last time Estonia shifts to summer time,  
# a council of the ruling coalition announced Sept. 6....  
# But what this could mean for Estonia's chances of joining the European  
# Union are still unclear. In 1994, the EU declared summer time compulsory  
# for all member states until 2001. Brussels has yet to decide what to do  
# after that.

# From Mart Oruaas (2000-01-29):

# Regulation no. 301 (1999-10-12) obsoletes previous regulation  
# no. 206 (1998-09-22) and thus sticks Estonia to +02:00 GMT for all  
# the year round. The regulation is effective 1999-11-01.

# From Toomas Soome (2002-02-21):

# The Estonian government has changed once again timezone politics.  
# Now we are using again EU rules.  
#  
# From Urmet Jaanes (2002-03-28):  
#  
The legislative reference is Government decree No. 84 on 2002-02-21.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Europe/Tallinn 1:39:00 - LMT 1880

1:39:00 - TMT 1918 Feb # Tallinn Mean Time

1:00 C-Eur CE%sT 1919 Jul

1:39:00 - TMT 1921 May

2:00 - EET 1940 Aug 6

3:00 - MSK 1941 Sep 15

1:00 C-Eur CE%sT 1944 Sep 22

3:00 Russia MSK/MSD 1989 Mar 26 2:00s

2:00 1:00 EEST 1989 Sep 24 2:00s

2:00 C-Eur EE%sT 1998 Sep 22

2:00 EU EE%sT 1999 Nov 1

2:00 - EET 2002 Feb 21

2:00 EU EE%sT

# Finland

# From Hannu Strang (1994-09-25 06:03:37 UTC):  
# Well, here in Helsinki we're just changing from summer time to regular one,  
# and it's supposed to change at 4am...

# From Janne Snabb (2010-0715):

#

# I noticed that the Finland data is not accurate for years 1981 and 1982.

# During these two first trial years the DST adjustment was made one hour

# earlier than in forthcoming years. Starting 1983 the adjustment was made

# according to the central European standards.

#

#

This is documented in Heikki Oja: Aikakirja 2007, published by The Almanac

# Office of University of Helsinki, ISBN 952-10-3221-9, available online (in

# Finnish) at

#

# <a href="http://almanakka.helsinki.fi/aikakirja/Aikakirja2007kokonaan.pdf">

# http://almanakka.helsinki.fi/aikakirja/Aikakirja2007kokonaan.pdf

# </a>

#

# Page 105 (56 in PDF version) has a handy table of all past daylight savings

# transitions. It is easy enough to interpret without Finnish skills.

#

# This is also confirmed by Finnish Broadcasting Company's archive at:

```
#
# <a href="http://www.yle.fi/elavaarkisto/?s=s&g=1&ag=5&t=&a=3401">
# http://www.yle.fi/elavaarkisto/?s=s&g=1&ag=5&t=&a=3401
# </a>
#
# The news clip from 1981 says that "the time between 2 and 3 o'clock does not
# exist tonight."
```

```
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
```

```
Rule Finland 1942 only - Apr 3 0:00 1:00 S
```

```
Rule Finland 1942 only - Oct 3 0:00 0 -
```

```
Rule Finland 1981 1982 - Mar lastSun 2:00 1:00 S
```

```
Rule Finland 1981 1982 - Sep lastSun 3:00 0 -
```

```
#
```

```
Zone NAME GMTOFF RULES FORMAT [UNTIL]
```

```
Zone Europe/Helsinki 1:39:52 - LMT 1878 May 31
```

```
1:39:52 - HMT 1921 May # Helsinki Mean Time
```

```
2:00 Finland EE%sT 1983
```

```
2:00 EU EE%sT
```

```
# Aaland Is
```

```
Link Europe/Helsinki Europe/Mariehamn
```

```
# France
```

```
# From Ciro Discepolo (2000-12-20):
```

```
#
```

```
# Henri Le Corre, Regimes Horaires pour le monde entier, Editions
```

```
# Traditionnelles - Paris 2 books, 1993
```

```
#
```

```
# Gabriel, Traite de l'heure dans le monde, Guy Tredaniel editeur,
```

```
# Paris, 1991
```

```
#
```

```
# Francoise Gauquelin, Problemes de l'heure resolu en astrologie,
```

```
# Guy tredaniel, Paris 1987
```

```
#
```

```
# Shank & Pottenger seem to use `24:00' ambiguously; resolve it with Whitman.
```

```
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
```

```
Rule France 1916 only - Jun 14 23:00s 1:00 S
```

```
Rule France 1916 1919 - Oct Sun>=1 23:00s 0 -
```

```
Rule France 1917 only - Mar 24 23:00s 1:00 S
```

```
Rule France 1918 only - Mar 9 23:00s 1:00 S
```

```
Rule France 1919 only - Mar 1 23:00s 1:00 S
```

```
Rule France 1920 only - Feb 14 23:00s 1:00 S
```

```
Rule France 1920 only - Oct 23 23:00s 0 -
```

Rule France 1921 only - Mar 14 23:00s 1:00 S  
 Rule France 1921 only - Oct 25 23:00s 0 -  
 Rule France 1922 only - Mar 25 23:00s 1:00 S  
 #  
 DSH writes that a law of 1923-05-24 specified 3rd Sat in Apr at 23:00 to 1st  
 # Sat in Oct at 24:00; and that in 1930, because of Easter, the transitions  
 # were Apr 12 and Oct 5. Go with Shanks & Pottenger.  
 Rule France 1922 1938 - Oct Sat $\geq$ 1 23:00s 0 -  
 Rule France 1923 only - May 26 23:00s 1:00 S  
 Rule France 1924 only - Mar 29 23:00s 1:00 S  
 Rule France 1925 only - Apr 4 23:00s 1:00 S  
 Rule France 1926 only - Apr 17 23:00s 1:00 S  
 Rule France 1927 only - Apr 9 23:00s 1:00 S  
 Rule France 1928 only - Apr 14 23:00s 1:00 S  
 Rule France 1929 only - Apr 20 23:00s 1:00 S  
 Rule France 1930 only - Apr 12 23:00s 1:00 S  
 Rule France 1931 only - Apr 18 23:00s 1:00 S  
 Rule France 1932 only - Apr 2 23:00s 1:00 S  
 Rule France 1933 only - Mar 25 23:00s 1:00 S  
 Rule France 1934 only - Apr 7 23:00s 1:00 S  
 Rule France 1935 only - Mar 30 23:00s 1:00 S  
 Rule France 1936 only - Apr 18 23:00s 1:00 S  
 Rule France 1937 only - Apr  
 3 23:00s 1:00 S  
 Rule France 1938 only - Mar 26 23:00s 1:00 S  
 Rule France 1939 only - Apr 15 23:00s 1:00 S  
 Rule France 1939 only - Nov 18 23:00s 0 -  
 Rule France 1940 only - Feb 25 2:00 1:00 S  
 # The French rules for 1941-1944 were not used in Paris, but Shanks & Pottenger  
 # write that they were used in Monaco and in many French locations.  
 # Le Corre writes that the upper limit of the free zone was Arneguy, Orthez,  
 # Mont-de-Marsan, Bazas, Langon, Lamotte-Montravel, Marouil, La  
 # Rochefoucault, Champagne-Mouton, La Roche-Posay, La Haye-Descartes,  
 # Loches, Montrichard, Vierzon, Bourges, Moulins, Digoin,  
 # Paray-le-Monial, Montceau-les-Mines, Chalons-sur-Saone, Arbois,  
 # Dole, Morez, St-Claude, and Collonges (Haute-Savoie).  
 Rule France 1941 only - May 5 0:00 2:00 M # Midsummer  
 # Shanks & Pottenger say this transition occurred at Oct 6 1:00,  
 # but go with Denis Excoffier (1997-12-12),  
 # who quotes the Ephemerides Astronomiques  
 for 1998 from Bureau des Longitudes  
 # as saying 5/10/41 22hUT.  
 Rule France 1941 only - Oct 6 0:00 1:00 S  
 Rule France 1942 only - Mar 9 0:00 2:00 M  
 Rule France 1942 only - Nov 2 3:00 1:00 S  
 Rule France 1943 only - Mar 29 2:00 2:00 M  
 Rule France 1943 only - Oct 4 3:00 1:00 S  
 Rule France 1944 only - Apr 3 2:00 2:00 M

Rule France 1944 only - Oct 8 1:00 1:00 S  
 Rule France 1945 only - Apr 2 2:00 2:00 M  
 Rule France 1945 only - Sep 16 3:00 0 -  
 # Shanks & Pottenger give Mar 28 2:00 and Sep 26 3:00;  
 # go with Excoffier's 28/3/76 0hUT and 25/9/76 23hUT.  
 Rule France 1976 only - Mar 28 1:00 1:00 S  
 Rule France 1976 only - Sep 26 1:00 0 -  
 # Shanks & Pottenger give 0:09:20 for Paris Mean Time, and Whitman 0:09:05,  
 # but Howse quotes the actual French legislation as saying 0:09:21.  
 # Go with Howse. Howse writes that the time in France was officially based  
 # on PMT-0:09:21 until 1978-08-09, when the time base finally switched to UTC.  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Europe/Paris 0:09:21  
 - LMT 1891 Mar 15 0:01  
 0:09:21 - PMT 1911 Mar 11 0:01 # Paris MT  
 # Shanks & Pottenger give 1940 Jun 14 0:00; go with Excoffier and Le Corre.  
 0:00 France WE%ST 1940 Jun 14 23:00  
 # Le Corre says Paris stuck with occupied-France time after the liberation;  
 # go with Shanks & Pottenger.  
 1:00 C-Eur CE%ST 1944 Aug 25  
 0:00 France WE%ST 1945 Sep 16 3:00  
 1:00 France CE%ST 1977  
 1:00 EU CE%ST  
  
 # Germany  
  
 # From Markus Kuhn (1998-09-29):  
 # The German time zone web site by the Physikalisch-Technische  
 # Bundesanstalt contains DST information back to 1916.  
 # [See tz-link.htm for the URL.]  
  
 # From Joerg Schilling (2002-10-23):  
 # In 1945, Berlin was switched to Moscow Summer time (GMT+4) by  
 # <a href="http://www.dhm.de/lemo/html/biografien/BersarinNikolai/">  
 # General [Nikolai] Bersarin</a>.  
  
 # From Paul Eggert (2003-03-08):  
 # <a href="http://www.parlament-berlin.de/pds-  
 fraktion.nsf/727459127c8b66ee8525662300459099/defc77cb784f180ac1256c2b0030274b/\$FILE/bersarint.pdf">  
 #  
 http://www.parlament-berlin.de/pds-  
 fraktion.nsf/727459127c8b66ee8525662300459099/defc77cb784f180ac1256c2b0030274b/\$FILE/bersarint.pdf  
 # </a>  
 # says that Bersarin issued an order to use Moscow time on May 20.  
 # However, Moscow did not observe daylight saving in 1945, so  
 # this was equivalent to CEMT (GMT+3), not GMT+4.

```

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Germany 1946 only - Apr 14 2:00s 1:00 S
Rule Germany 1946 only - Oct 7 2:00s 0 -
Rule Germany 1947 1949 - Oct Sun>=1 2:00s 0 -
# http://www.ptb.de/de/org/4/44/441/salt.htm says the following transition
# occurred at 3:00 MEZ, not the 2:00 MEZ given in Shanks & Pottenger.
# Go with the PTB.
Rule Germany 1947 only - Apr 6 3:00s 1:00 S
Rule Germany 1947 only - May 11 2:00s 2:00 M
Rule Germany 1947 only - Jun 29 3:00 1:00 S
Rule Germany 1948 only - Apr 18 2:00s 1:00 S
Rule Germany 1949 only - Apr 10 2:00s 1:00 S

Rule SovietZone 1945 only - May 24 2:00 2:00 M # Midsummer
Rule SovietZone 1945 only - Sep 24 3:00 1:00 S
Rule
SovietZone 1945 only - Nov 18 2:00s 0 -

# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Europe/Berlin 0:53:28 - LMT 1893 Apr
1:00 C-Eur CE%sT 1945 May 24 2:00
1:00 SovietZone CE%sT 1946
1:00 Germany CE%sT 1980
1:00 EU CE%sT

# From Tobias Conradi (2011-09-12):
# Busingen <http://www.buesingen.de>, surrounded by the Swiss canton
# Schaffhausen, did not start observing DST in 1980 as the rest of DE
# (West Germany at that time) and DD (East Germany at that time) did.
# DD merged into DE, the area is currently covered by code DE in ISO 3166-1,
# which in turn is covered by the zone Europe/Berlin.
#
# Source for the time in Busingen 1980:
# http://www.srf.ch/player/video?id=c012c029-03b7-4c2b-9164-aa5902cd58d3

# From Arthur David Olson (2012-03-03):
# Busingen and Zurich have shared clocks since 1970.

Link Europe/Zurich Europe/Busingen

# Georgia
# Please see the "asia" file for Asia/Tbilisi.
# Herodotus (Histories, IV.45) says Georgia north of the Phasis (now
Rioni)
# is in Europe. Our reference location Tbilisi is in the Asian part.

# Gibraltar
# Zone NAME GMTOFF RULES FORMAT [UNTIL]

```

Zone Europe/Gibraltar -0:21:24 - LMT 1880 Aug 2 0:00s

0:00 GB-Eire %s 1957 Apr 14 2:00

1:00 - CET 1982

1:00 EU CE%sT

# Greece

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

# Whitman gives 1932 Jul 5 - Nov 1; go with Shanks & Pottenger.

Rule Greece 1932 only - Jul 7 0:00 1:00 S

Rule Greece 1932 only - Sep 1 0:00 0 -

# Whitman gives 1941 Apr 25 - ?; go with Shanks & Pottenger.

Rule Greece 1941 only - Apr 7 0:00 1:00 S

# Whitman gives 1942 Feb 2 - ?; go with Shanks & Pottenger.

Rule Greece 1942 only - Nov 2 3:00 0 -

Rule Greece 1943 only - Mar 30 0:00 1:00 S

Rule Greece 1943 only - Oct 4 0:00 0 -

# Whitman gives 1944 Oct 3 - Oct 31; go with Shanks & Pottenger.

Rule Greece 1952 only - Jul 1 0:00 1:00 S

Rule Greece 1952 only - Nov 2 0:00 0 -

Rule Greece 1975 only - Apr 12 0:00s 1:00 S

Rule Greece 1975 only - Nov 26 0:00s 0 -

Rule Greece 1976 only - Apr 11 2:00s 1:00 S

Rule Greece 1976 only - Oct 10 2:00s 0 -

Rule Greece 1977 1978 - Apr Sun>=1 2:00s 1:00 S

Rule Greece 1977 only - Sep 26 2:00s 0 -

Rule Greece 1978 only - Sep 24 4:00 0 -

Rule Greece 1979 only - Apr

1 9:00 1:00 S

Rule Greece 1979 only - Sep 29 2:00 0 -

Rule Greece 1980 only - Apr 1 0:00 1:00 S

Rule Greece 1980 only - Sep 28 0:00 0 -

# Zone NAME GMTTOFF RULES FORMAT [UNTIL]

Zone Europe/Athens 1:34:52 - LMT 1895 Sep 14

1:34:52 - AMT 1916 Jul 28 0:01 # Athens MT

2:00 Greece EE%sT 1941 Apr 30

1:00 Greece CE%sT 1944 Apr 4

2:00 Greece EE%sT 1981

# Shanks & Pottenger say it switched to C-Eur in 1981;

# go with EU instead, since Greece joined it on Jan 1.

2:00 EU EE%sT

# Hungary

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Hungary 1918 only - Apr 1 3:00 1:00 S

Rule Hungary 1918 only - Sep 29 3:00 0 -

Rule Hungary 1919 only - Apr 15 3:00 1:00 S

Rule Hungary 1919 only - Sep 15 3:00 0 -

Rule Hungary 1920 only - Apr 5 3:00 1:00 S



Rule Hungary 1920 only - Sep 30  
 3:00 0 -  
 Rule Hungary 1945 only - May 1 23:00 1:00 S  
 Rule Hungary 1945 only - Nov 3 0:00 0 -  
 Rule Hungary 1946 only - Mar 31 2:00s 1:00 S  
 Rule Hungary 1946 1949 - Oct Sun>=1 2:00s 0 -  
 Rule Hungary 1947 1949 - Apr Sun>=4 2:00s 1:00 S  
 Rule Hungary 1950 only - Apr 17 2:00s 1:00 S  
 Rule Hungary 1950 only - Oct 23 2:00s 0 -  
 Rule Hungary 1954 1955 - May 23 0:00 1:00 S  
 Rule Hungary 1954 1955 - Oct 3 0:00 0 -  
 Rule Hungary 1956 only - Jun Sun>=1 0:00 1:00 S  
 Rule Hungary 1956 only - Sep lastSun 0:00 0 -  
 Rule Hungary 1957 only - Jun Sun>=1 1:00 1:00 S  
 Rule Hungary 1957 only - Sep lastSun 3:00 0 -  
 Rule Hungary 1980 only - Apr 6 1:00 1:00 S  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Europe/Budapest 1:16:20 - LMT 1890 Oct  
 1:00 C-Eur CE%sT 1918  
 1:00 Hungary CE%sT 1941 Apr 6 2:00  
 1:00 C-Eur CE%sT 1945  
 1:00 Hungary CE%sT 1980 Sep 28 2:00s  
 1:00 EU CE%sT  
  
 # Iceland  
 #  
 # From Adam David (1993-11-06):  
 # The name of the timezone in Iceland  
 # for system / mail / news purposes is GMT.  
 #  
 # (1993-12-05):  
 # This material is paraphrased from the 1988 edition of the University of  
 # Iceland Almanak.  
 #  
 # From January 1st, 1908 the whole of Iceland was standardised at 1 hour  
 # behind GMT. Previously, local mean solar time was used in different parts  
 # of Iceland, the almanak had been based on Reykjavik mean solar time which  
 # was 1 hour and 28 minutes behind GMT.  
 #  
 # "first day of winter" referred to [below] means the first day of the 26 weeks  
 # of winter, according to the old icelandic calendar that dates back to the  
 # time the norsemen first settled Iceland. The first day of winter is always  
 # Saturday, but is not dependent on the Julian or Gregorian calendars.  
 #  
 # (1993-12-10):  
 # I have a reference from the Oxford Icelandic-English dictionary for the  
 # beginning of winter, which ties it to the ecclesiastical calendar (and thus  
 # to the julian/gregorian calendar) over the period in question.

```

# the winter begins on the Saturday
  next before St. Luke's day
# (old style), or on St. Luke's day, if a Saturday.
# St. Luke's day ought to be traceable from ecclesiastical sources. "old style"
# might be a reference to the Julian calendar as opposed to Gregorian, or it
# might mean something else (???).
#
# From Paul Eggert (2006-03-22):
# The Iceland Almanak, Shanks & Pottenger, and Whitman disagree on many points.
# We go with the Almanak, except for one claim from Shanks & Pottenger, namely
# that Reykjavik was 21W57 from 1837 to 1908, local mean time before that.
#
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Iceland 1917 1918 - Feb 19 23:00 1:00 S
Rule Iceland 1917 only - Oct 21 1:00 0 -
Rule Iceland 1918 only - Nov 16 1:00 0 -
Rule Iceland 1939 only - Apr 29 23:00 1:00 S
Rule Iceland 1939 only - Nov 29 2:00 0 -
Rule Iceland 1940 only - Feb 25 2:00 1:00 S
Rule Iceland 1940 only - Nov 3 2:00 0 -
Rule Iceland 1941 only - Mar 2 1:00s 1:00 S
Rule Iceland 1941 only - Nov 2 1:00s 0 -
Rule Iceland 1942 only - Mar
  8 1:00s 1:00 S
Rule Iceland 1942 only - Oct 25 1:00s 0 -
# 1943-1946 - first Sunday in March until first Sunday in winter
Rule Iceland 1943 1946 - Mar Sun>=1 1:00s 1:00 S
Rule Iceland 1943 1948 - Oct Sun>=22 1:00s 0 -
# 1947-1967 - first Sunday in April until first Sunday in winter
Rule Iceland 1947 1967 - Apr Sun>=1 1:00s 1:00 S
# 1949 Oct transition delayed by 1 week
Rule Iceland 1949 only - Oct 30 1:00s 0 -
Rule Iceland 1950 1966 - Oct Sun>=22 1:00s 0 -
Rule Iceland 1967 only - Oct 29 1:00s 0 -
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Atlantic/Reykjavik -1:27:24 - LMT 1837
  -1:27:48 - RMT 1908 # Reykjavik Mean Time?
  -1:00 Iceland IS%sT 1968 Apr 7 1:00s
  0:00 - GMT

# Italy
#
# From Paul Eggert (2001-03-06):
# Sicily and Sardinia each had their own time zones from 1866 to 1893,
# called Palermo Time (+00:53:28) and Cagliari Time (+00:36:32).
# During World War II, German-controlled Italy used German time.
# But these events all occurred before the 1970

```

cutoff,  
# so record only the time in Rome.  
#  
# From Paul Eggert (2006-03-22):  
# For Italian DST we have three sources: Shanks & Pottenger, Whitman, and  
# F. Pollastri  
# <a href="http://toi.iriti.cnr.it/uk/ienitlt.html">  
# Day-light Saving Time in Italy (2006-02-03)  
# </a>  
# (^FP' below), taken from an Italian National Electrotechnical Institute  
# publication. When the three sources disagree, guess who's right, as follows:  
#  
# year FP Shanks&P. (S) Whitman (W) Go with:  
# 1916 06-03 06-03 24:00 06-03 00:00 FP & W  
# 09-30 09-30 24:00 09-30 01:00 FP; guess 24:00s  
# 1917 04-01 03-31 24:00 03-31 00:00 FP & S  
# 09-30 09-29 24:00 09-30 01:00 FP & W  
# 1918 03-09 03-09 24:00 03-09 00:00 FP & S  
# 10-06 10-05 24:00 10-06 01:00 FP & W  
# 1919 03-01 03-01 24:00 03-01 00:00 FP & S  
# 10-04 10-04 24:00 10-04 01:00 FP; guess 24:00s  
# 1920 03-20 03-20 24:00 03-20 00:00 FP & S  
# 09-18 09-18 24:00 10-01 01:00 FP; guess 24:00s  
# 1944 04-02 04-03 02:00 S (see C-Eur)  
# 09-16 10-02 03:00 FP; guess 24:00s  
#  
1945 09-14 09-16 24:00 FP; guess 24:00s  
# 1970 05-21 05-31 00:00 S  
# 09-20 09-27 00:00 S  
#  
# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
Rule Italy 1916 only - Jun 3 0:00s 1:00 S  
Rule Italy 1916 only - Oct 1 0:00s 0 -  
Rule Italy 1917 only - Apr 1 0:00s 1:00 S  
Rule Italy 1917 only - Sep 30 0:00s 0 -  
Rule Italy 1918 only - Mar 10 0:00s 1:00 S  
Rule Italy 1918 1919 - Oct Sun>=1 0:00s 0 -  
Rule Italy 1919 only - Mar 2 0:00s 1:00 S  
Rule Italy 1920 only - Mar 21 0:00s 1:00 S  
Rule Italy 1920 only - Sep 19 0:00s 0 -  
Rule Italy 1940 only - Jun 15 0:00s 1:00 S  
Rule Italy 1944 only - Sep 17 0:00s 0 -  
Rule Italy 1945 only - Apr 2 2:00 1:00 S  
Rule Italy 1945 only - Sep 15 0:00s 0 -  
Rule Italy 1946 only - Mar 17 2:00s 1:00 S  
Rule Italy 1946 only - Oct 6 2:00s 0 -  
Rule Italy 1947 only - Mar 16 0:00s 1:00 S  
Rule Italy 1947 only - Oct 5 0:00s 0 -

Rule Italy 1948 only - Feb 29 2:00s 1:00 S  
 Rule Italy 1948 only - Oct 3 2:00s 0 -  
 Rule Italy 1966 1968 - May Sun>=22 0:00 1:00 S  
 Rule Italy 1966 1969 - Sep Sun>=22 0:00 0 -  
 Rule Italy 1969 only - Jun  
 1 0:00 1:00 S  
 Rule Italy 1970 only - May 31 0:00 1:00 S  
 Rule Italy 1970 only - Sep lastSun 0:00 0 -  
 Rule Italy 1971 1972 - May Sun>=22 0:00 1:00 S  
 Rule Italy 1971 only - Sep lastSun 1:00 0 -  
 Rule Italy 1972 only - Oct 1 0:00 0 -  
 Rule Italy 1973 only - Jun 3 0:00 1:00 S  
 Rule Italy 1973 1974 - Sep lastSun 0:00 0 -  
 Rule Italy 1974 only - May 26 0:00 1:00 S  
 Rule Italy 1975 only - Jun 1 0:00s 1:00 S  
 Rule Italy 1975 1977 - Sep lastSun 0:00s 0 -  
 Rule Italy 1976 only - May 30 0:00s 1:00 S  
 Rule Italy 1977 1979 - May Sun>=22 0:00s 1:00 S  
 Rule Italy 1978 only - Oct 1 0:00s 0 -  
 Rule Italy 1979 only - Sep 30 0:00s 0 -  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Europe/Rome 0:49:56 - LMT 1866 Sep 22  
 0:49:56 - RMT 1893 Nov 1 0:00s # Rome Mean  
 1:00 Italy CE%sT 1942 Nov 2 2:00s  
 1:00 C-Eur CE%sT 1944 Jul  
 1:00 Italy CE%sT 1980  
 1:00 EU CE%sT

Link Europe/Rome Europe/Vatican  
 Link Europe/Rome Europe/San\_Marino

# Latvia

# From

Liene Kanepe (1998-09-17):

# I asked about this matter Scientific Secretary of the Institute of Astronomy  
 # of The University of Latvia Dr. paed Mr. Ilgonis Vilks. I also searched the  
 # correct data in juridical acts and I found some juridical documents about  
 # changes in the counting of time in Latvia from 1981....  
 #  
 # Act No.35 of the Council of Ministers of Latvian SSR of 1981-01-22 ...  
 # according to the Act No.925 of the Council of Ministers of USSR of 1980-10-24  
 # ...: all year round the time of 2nd time zone + 1 hour, in addition turning  
 # the hands of the clock 1 hour forward on 1 April at 00:00 (GMT 31 March 21:00)  
 # and 1 hour backward on the 1 October at 00:00 (GMT 30 September 20:00).  
 #  
 # Act No.592 of the Council of Ministers of Latvian SSR of 1984-09-24 ...

```

# according to the Act No.967 of the Council of Ministers of USSR of 1984-09-13
# ...: all year round the time of 2nd time zone + 1 hour, in addition turning
# the hands of the clock 1 hour forward on the last Sunday
# of March at 02:00
# (GMT 23:00 on the previous day) and 1 hour backward on the last Sunday of
# September at 03:00 (GMT 23:00 on the previous day).
#
# Act No.81 of the Council of Ministers of Latvian SSR of 1989-03-22 ...
# according to the Act No.227 of the Council of Ministers of USSR of 1989-03-14
# ...: since the last Sunday of March 1989 in Lithuanian SSR, Latvian SSR,
# Estonian SSR and Kaliningrad region of Russian Federation all year round the
# time of 2nd time zone (Moscow time minus one hour). On the territory of Latvia
# transition to summer time is performed on the last Sunday of March at 02:00
# (GMT 00:00), turning the hands of the clock 1 hour forward. The end of
# daylight saving time is performed on the last Sunday of September at 03:00
# (GMT 00:00), turning the hands of the clock 1 hour backward. Exception is
# 1989-03-26, when we must not turn the hands of the clock....
#
# The Regulations of the Cabinet of Ministers of the Republic of Latvia of
# 1997-01-21 on
# transition to Summer time ... established the same order of
# daylight savings time settings as in the States of the European Union.

# From Andrei Ivanov (2000-03-06):
# This year Latvia will not switch to Daylight Savings Time (as specified in
# <a href="http://www.lv-laiks.lv/wwwraksti/2000/071072/vd4.htm">
# The Regulations of the Cabinet of Ministers of the Rep. of Latvia of
# 29-Feb-2000 (#79)</a>, in Latvian for subscribers only).

# <a href="http://www.rferl.org/newsline/2001/01/3-CEE/cee-030101.html">
# From RFE/RL Newsline (2001-01-03), noted after a heads-up by Rives McDow:
# </a>
# The Latvian government on 2 January decided that the country will
# institute daylight-saving time this spring, LETA reported.
# Last February the three Baltic states decided not to turn back their
# clocks one hour in the spring....
# Minister of Economy Aigars Kalvitis noted that Latvia had too few
# daylight hours and thus decided to comply with a draft European
# Commission directive that provides
# for instituting daylight-saving
# time in EU countries between 2002 and 2006. The Latvian government
# urged Lithuania and Estonia to adopt a similar time policy, but it
# appears that they will not do so....

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Latvia 1989 1996 - Mar lastSun 2:00s 1:00 S
Rule Latvia 1989 1996 - Sep lastSun 2:00s 0 -
# Zone NAME GMTOFF RULES FORMAT [UNTIL]

```

Zone Europe/Riga 1:36:24 - LMT 1880  
1:36:24 - RMT 1918 Apr 15 2:00 #Riga Mean Time  
1:36:24 1:00 LST 1918 Sep 16 3:00 #Latvian Summer  
1:36:24 - RMT 1919 Apr 1 2:00  
1:36:24 1:00 LST 1919 May 22 3:00  
1:36:24 - RMT 1926 May 11  
2:00 - EET 1940 Aug 5  
3:00 - MSK 1941 Jul  
1:00 C-Eur CE%ST 1944 Oct 13  
3:00 Russia MSK/MSD 1989 Mar lastSun 2:00s  
2:00 1:00 EEST 1989 Sep lastSun 2:00s  
2:00 Latvia EE%ST 1997 Jan 21  
2:00 EU EE%ST 2000 Feb 29  
2:00 - EET 2001 Jan 2  
2:00 EU EE%ST

# Liechtenstein  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Europe/Vaduz 0:38:04  
- LMT 1894 Jun  
1:00 - CET 1981  
1:00 EU CE%ST

# Lithuania

# From Paul Eggert (1996-11-22):  
# IATA SSIM (1992/1996) says Lithuania uses W-Eur rules, but since it is  
# known to be wrong about Estonia and Latvia, assume it's wrong here too.

# From Marius Gedminas (1998-08-07):  
# I would like to inform that in this year Lithuanian time zone  
# (Europe/Vilnius) was changed.

# From <a href="http://www.elta.lt/">ELTA</a> No. 972 (2582) (1999-09-29),  
# via Steffen Thorsen:  
# Lithuania has shifted back to the second time zone (GMT plus two hours)  
# to be valid here starting from October 31,  
# as decided by the national government on Wednesday....  
# The Lithuanian government also announced plans to consider a  
# motion to give up shifting to summer time in spring, as it was  
# already done by Estonia.

# From the <a href="http://www.tourism.lt/informa/ff.htm">  
# Fact File, Lithuanian State Department of Tourism  
# </a> (2000-03-27): Local time is GMT+2 hours ..., no daylight saving.

# From

a user via Klaus Marten (2003-02-07):  
# As a candidate for membership of the European Union, Lithuania will  
# observe Summer Time in 2003, changing its clocks at the times laid  
# down in EU Directive 2000/84 of 19.I.01 (i.e. at the same times as its  
# neighbour Latvia). The text of the Lithuanian government Order of  
# 7.XI.02 to this effect can be found at  
# <http://www.lrvk.lt/nut/11/n1749.htm>

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Europe/Vilnius 1:41:16 - LMT 1880

1:24:00 - WMT 1917 # Warsaw Mean Time

1:35:36 - KMT 1919 Oct 10 # Kaunas Mean Time

1:00 - CET 1920 Jul 12

2:00 - EET 1920 Oct 9

1:00 - CET 1940 Aug 3

3:00 - MSK 1941 Jun 24

1:00 C-Eur CE%sT 1944 Aug

3:00 Russia MSK/MSD 1991 Mar 31 2:00s

2:00 1:00 EEST 1991 Sep 29 2:00s

2:00 C-Eur EE%sT 1998

2:00 - EET 1998 Mar 29 1:00u

1:00 EU CE%sT 1999 Oct 31 1:00u

2:00 - EET 2003 Jan 1

2:00 EU EE%sT

# Luxembourg

# Whitman disagrees with most of these dates in minor ways;

# go with

Shanks & Pottenger.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Lux 1916 only - May 14 23:00 1:00 S

Rule Lux 1916 only - Oct 1 1:00 0 -

Rule Lux 1917 only - Apr 28 23:00 1:00 S

Rule Lux 1917 only - Sep 17 1:00 0 -

Rule Lux 1918 only - Apr Mon>=15 2:00s 1:00 S

Rule Lux 1918 only - Sep Mon>=15 2:00s 0 -

Rule Lux 1919 only - Mar 1 23:00 1:00 S

Rule Lux 1919 only - Oct 5 3:00 0 -

Rule Lux 1920 only - Feb 14 23:00 1:00 S

Rule Lux 1920 only - Oct 24 2:00 0 -

Rule Lux 1921 only - Mar 14 23:00 1:00 S

Rule Lux 1921 only - Oct 26 2:00 0 -

Rule Lux 1922 only - Mar 25 23:00 1:00 S

Rule Lux 1922 only - Oct Sun>=2 1:00 0 -

Rule Lux 1923 only - Apr 21 23:00 1:00 S

Rule Lux 1923 only - Oct Sun>=2 2:00 0 -

Rule Lux 1924 only - Mar 29 23:00 1:00 S

Rule Lux 1924 1928 - Oct Sun>=2 1:00 0 -  
 Rule Lux 1925 only - Apr 5 23:00 1:00 S  
 Rule Lux 1926 only - Apr 17 23:00 1:00 S  
 Rule Lux 1927 only - Apr 9 23:00 1:00 S  
 Rule Lux 1928 only - Apr 14 23:00 1:00 S  
 Rule Lux 1929 only - Apr 20 23:00 1:00 S  
 #  
 Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
 Zone Europe/Luxembourg 0:24:36 - LMT 1904 Jun  
 1:00 Lux CE%sT 1918 Nov 25  
 0:00 Lux WE%sT 1929 Oct 6 2:00s  
 0:00 Belgium WE%sT 1940 May 14 3:00  
 1:00 C-Eur WE%sT 1944 Sep 18 3:00  
 1:00 Belgium CE%sT 1977  
 1:00 EU CE%sT  
  
 # Macedonia  
 # see Serbia  
  
 # Malta  
 # Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
 Rule Malta 1973 only - Mar 31 0:00s 1:00 S  
 Rule Malta 1973 only - Sep 29 0:00s 0 -  
 Rule Malta 1974 only - Apr 21 0:00s 1:00 S  
 Rule Malta 1974 only - Sep 16 0:00s 0 -  
 Rule Malta 1975 1979 - Apr Sun>=15 2:00 1:00 S  
 Rule Malta 1975 1980 - Sep Sun>=15 2:00 0 -  
 Rule Malta 1980 only - Mar 31 2:00 1:00 S  
 # Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
 Zone Europe/Malta 0:58:04 - LMT 1893 Nov 2 0:00s # Valletta  
 1:00 Italy CE%sT 1942 Nov 2 2:00s  
 1:00 C-Eur CE%sT 1945 Apr 2 2:00s  
 1:00 Italy CE%sT 1973 Mar 31  
 1:00 Malta CE%sT 1981  
 1:00 EU CE%sT  
  
 # Moldova  
  
 # From Paul Eggert (2006-03-22):  
 # A previous version of this database  
 followed Shanks & Pottenger, who write  
 # that Tiraspol switched to Moscow time on 1992-01-19 at 02:00.  
 # However, this is most likely an error, as Moldova declared independence  
 # on 1991-08-27 (the 1992-01-19 date is that of a Russian decree).  
 # In early 1992 there was large-scale interethnic violence in the area  
 # and it's possible that some Russophones continued to observe Moscow time.  
 # But [two people] separately reported via  
 # Jesper Norgaard that as of 2001-01-24 Tiraspol was like Chisinau.



# The Tiraspol entry has therefore been removed for now.  
#  
# From Alexander Krivenyshev (2011-10-17):  
# Pridnestrovian Moldavian Republic (PMR, also known as  
# "Pridnestrovie") has abolished seasonal clock change (no transition  
# to the Winter Time).  
#  
# News (in Russian):  
# <a href="http://www.kyivpost.ua/russia/news/pridnestrove-otkazalos-ot-perehoda-na-zimnee-vremya-30954.html">  
# http://www.kyivpost.ua/russia/news/pridnestrove-otkazalos-ot-perehoda-na-zimnee-vremya-30954.html  
# </a>  
#  
# <a  
# href="http://www.allmoldova.com/moldova-news/1249064116.html">  
# http://www.allmoldova.com/moldova-news/1249064116.html  
# </a>  
#  
# The substance of this change (reinstatement of the Tiraspol entry)  
# is from a patch from Petr Machata (2011-10-17)  
#  
# From Tim Parenti (2011-10-19)  
# In addition, being situated at +4651+2938 would give Tiraspol  
# a pre-1880 LMT offset of 1:58:32.  
#  
# (which agrees with the earlier entry that had been removed)  
#  
# From Alexander Krivenyshev (2011-10-26)  
# NO need to divide Moldova into two timezones at this point.  
# As of today, Transnistria (Pridnestrovie)- Tiraspol reversed its own  
# decision to abolish DST this winter.  
# Following Moldova and neighboring Ukraine- Transnistria (Pridnestrovie)-  
# Tiraspol will go back to winter time on October 30, 2011.  
# News from Moldova (in russian):  
# <a href="http://ru.publika.md/link\_317061.html">  
# http://ru.publika.md/link\_317061.html  
# </a>

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Europe/Chisinau 1:55:20

- LMT 1880

1:55 - CMT 1918 Feb 15 # Chisinau MT

1:44:24 - BMT 1931 Jul 24 # Bucharest MT

2:00 Romania EE%sT 1940 Aug 15

2:00 1:00 EEST 1941 Jul 17

1:00 C-Eur CE%sT 1944 Aug 24

3:00 Russia MSK/MSD 1990

3:00 - MSK 1990 May 6  
2:00 - EET 1991  
2:00 Russia EE%sT 1992  
2:00 E-Eur EE%sT 1997  
# See Romania commentary for the guessed 1997 transition to EU rules.  
2:00 EU EE%sT

# Monaco  
# Shanks & Pottenger give 0:09:20 for Paris Mean Time; go with Howse's  
# more precise 0:09:21.  
# Zone NAME GMTOFF RULES FORMAT [UNTIL]  
Zone Europe/Monaco 0:29:32 - LMT 1891 Mar 15  
0:09:21 - PMT 1911 Mar 11 # Paris Mean Time  
0:00 France WE%sT 1945 Sep 16 3:00  
1:00 France CE%sT 1977  
1:00 EU CE%sT

# Montenegro  
# see Serbia

# Netherlands

# Howse writes that the Netherlands' railways used GMT between 1892 and 1940,  
# but for other purposes the Netherlands used Amsterdam mean time.

# However, Robert H. van Gent writes (2001-04-01):  
# Howse's statement is only correct  
# up to 1909. From 1909-05-01 (00:00:00  
# Amsterdam mean time) onwards, the whole of the Netherlands (including  
# the Dutch railways) was required by law to observe Amsterdam mean time  
# (19 minutes 32.13 seconds ahead of GMT). This had already been the  
# common practice (except for the railways) for many decades but it was  
# not until 1909 when the Dutch government finally defined this by law.  
# On 1937-07-01 this was changed to 20 minutes (exactly) ahead of GMT and  
# was generally known as Dutch Time ("Nederlandse Tijd").  
#  
# (2001-04-08):  
# 1892-05-01 was the date when the Dutch railways were by law required to  
# observe GMT while the remainder of the Netherlands adhered to the common  
# practice of following Amsterdam mean time.  
#  
# (2001-04-09):  
# In 1835 the authorities of the province of North Holland requested the  
# municipal authorities of the towns and cities in the province to observe  
# Amsterdam mean time but I do not know in how many cases this request was  
# actually followed.  
#  
#

From 1852 onwards the Dutch telegraph offices were by law required to  
# observe Amsterdam mean time. As the time signals from the observatory of  
# Leiden were also distributed by the telegraph system, I assume that most  
# places linked up with the telegraph (and railway) system automatically  
# adopted Amsterdam mean time.

#

# Although the early Dutch railway companies initially observed a variety  
# of times, most of them had adopted Amsterdam mean time by 1858 but it  
# was not until 1866 when they were all required by law to observe  
# Amsterdam mean time.

# The data before 1945 are taken from

# <<http://www.phys.uu.nl/~vgent/wettijd/wettijd.htm>>.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Neth 1916 only - May 1 0:00 1:00 NST # Netherlands Summer Time

Rule Neth 1916 only - Oct 1 0:00 0 AMT # Amsterdam Mean Time

Rule Neth 1917 only - Apr 16 2:00s 1:00 NST

Rule Neth 1917 only - Sep 17 2:00s 0 AMT

Rule Neth 1918 1921 - Apr Mon>=1 2:00s 1:00 NST

Rule Neth 1918 1921 - Sep lastMon 2:00s 0 AMT

Rule Neth 1922 only - Mar lastSun 2:00s 1:00 NST

Rule Neth 1922 1936 - Oct Sun>=2 2:00s 0 AMT

Rule Neth 1923 only - Jun Fri>=1 2:00s 1:00 NST

Rule Neth 1924 only - Mar lastSun 2:00s 1:00 NST

Rule Neth 1925 only - Jun Fri>=1 2:00s 1:00 NST

#

From 1926 through 1939 DST began 05-15, except that it was delayed by a week  
# in years when 05-15 fell in the Pentecost weekend.

Rule Neth 1926 1931 - May 15 2:00s 1:00 NST

Rule Neth 1932 only - May 22 2:00s 1:00 NST

Rule Neth 1933 1936 - May 15 2:00s 1:00 NST

Rule Neth 1937 only - May 22 2:00s 1:00 NST

Rule Neth 1937 only - Jul 1 0:00 1:00 S

Rule Neth 1937 1939 - Oct Sun>=2 2:00s 0 -

Rule Neth 1938 1939 - May 15 2:00s 1:00 S

Rule Neth 1945 only - Apr 2 2:00s 1:00 S

Rule Neth 1945 only - Sep 16 2:00s 0 -

#

# Amsterdam Mean Time was +00:19:32.13 exactly, but the .13 is omitted  
# below because the current format requires GMTOFF to be an integer.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Europe/Amsterdam 0:19:32 - LMT 1835

0:19:32 Neth %s 1937

Jul 1

0:20 Neth NE%sT 1940 May 16 0:00 # Dutch Time

1:00 C-Eur CE%sT 1945 Apr 2 2:00

1:00 Neth CE%sT 1977

1:00 EU CE%sT

# Norway

# [http://met.no/met/met\\_lex/q\\_u/sommertid.html](http://met.no/met/met_lex/q_u/sommertid.html) (2004-01) agrees with Shanks & Pottenger.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Norway 1916 only - May 22 1:00 1:00 S

Rule Norway 1916 only - Sep 30 0:00 0 -

Rule Norway 1945 only - Apr 2 2:00s 1:00 S

Rule Norway 1945 only - Oct 1 2:00s 0 -

Rule Norway 1959 1964 - Mar Sun>=15 2:00s 1:00 S

Rule Norway 1959 1965 - Sep Sun>=15 2:00s 0 -

Rule Norway 1965 only - Apr 25 2:00s 1:00 S

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Europe/Oslo 0:43:00 - LMT 1895 Jan 1

1:00 Norway CE%sT 1940 Aug 10 23:00

1:00 C-Eur CE%sT 1945 Apr 2 2:00

1:00 Norway CE%sT 1980

1:00 EU CE%sT

# Svalbard & Jan Mayen

# From Steffen Thorsen (2001-05-01):

# Although I could not find it explicitly, it seems that Jan Mayen and

# Svalbard have been using the same time as Norway

at least since the

# time they were declared as parts of Norway. Svalbard was declared

# as a part of Norway by law of 1925-07-17 no 11, section 4 and Jan

# Mayen by law of 1930-02-27 no 2, section 2. (From

# <http://www.lovddata.no/all/nl-19250717-011.html> and

# <http://www.lovddata.no/all/nl-19300227-002.html>). The law/regulation

# for normal/standard time in Norway is from 1894-06-29 no 1 (came

# into operation on 1895-01-01) and Svalbard/Jan Mayen seem to be a

# part of this law since 1925/1930. (From

# <http://www.lovddata.no/all/nl-18940629-001.html> ) I have not been

# able to find if Jan Mayen used a different time zone (e.g. -0100)

# before 1930. Jan Mayen has only been "inhabited" since 1921 by

# Norwegian meteorologists and maybe used the same time as Norway ever

# since 1921. Svalbard (Arctic/Longyearbyen) has been inhabited since

# before 1895, and therefore probably changed the local time somewhere

# between 1895 and 1925 (inclusive).

# From Paul Eggert (2001-05-01):

#

# Actually,

Jan Mayen was never occupied by Germany during World War II,

# so it must have diverged from Oslo time during the war, as Oslo was

# keeping Berlin time.

#

# <<http://home.no.net/janmayen/history.htm>> says that the meteorologists

# burned down their station in 1940 and left the island, but returned in

# 1941 with a small Norwegian garrison and continued operations despite

# frequent air attacks from Germans. In 1943 the Americans established a

# radiolocating station on the island, called "Atlantic City". Possibly

# the UTC offset changed during the war, but I think it unlikely that

# Jan Mayen used German daylight-saving rules.

#

# Svalbard is more complicated, as it was raided in August 1941 by an

# Allied party that evacuated the civilian population to England (says

# <<http://www.bartleby.com/65/sv/Svalbard.html>>). The Svalbard FAQ

# <<http://www.svalbard.com/SvalbardFAQ.html>> says that the Germans were

# expelled on 1942-05-14. However, small parties of Germans did return,

#

and according to Wilhelm Dege's book "War North of 80" (1954)

# <<http://www.ucalgary.ca/UofC/departments/UP/1-55238/1-55238-110-2.html>>

# the German armed forces at the Svalbard weather station code-named

# Haudegen did not surrender to the Allies until September 1945.

#

# All these events predate our cutoff date of 1970. Unless we can

# come up with more definitive info about the timekeeping during the

# war years it's probably best just do...the following for now:

Link Europe/Oslo Arctic/Longyearbyen

# Poland

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Poland 1918 1919 - Sep 16 2:00s 0 -

Rule Poland 1919 only - Apr 15 2:00s 1:00 S

Rule Poland 1944 only - Apr 3 2:00s 1:00 S

# Whitman gives 1944 Nov 30; go with Shanks & Pottenger.

Rule Poland 1944 only - Oct 4 2:00 0 -

# For 1944-1948 Whitman gives the previous day; go with Shanks & Pottenger.

Rule Poland 1945 only - Apr 29 0:00 1:00 S

Rule Poland 1945 only - Nov 1 0:00 0 -

# For 1946 on the source is Kazimierz Borkowski,

#

Torun Center for Astronomy, Dept. of Radio Astronomy, Nicolaus Copernicus U.,

# <[http://www.astro.uni.torun.pl/~kb/Artykuly/U-PA/Czas2.htm#tth\\_tAb1](http://www.astro.uni.torun.pl/~kb/Artykuly/U-PA/Czas2.htm#tth_tAb1)>

# Thanks to Przemyslaw Augustyniak (2005-05-28) for this reference.

# He also gives these further references:

# Mon Pol nr 13, poz 162 (1995) <<http://www.abc.com.pl/serwis/mp/1995/0162.htm>>

# Druk nr 2180 (2003) <<http://www.senat.gov.pl/k5/dok/sejm/053/2180.pdf>>

Rule Poland 1946 only - Apr 14 0:00s 1:00 S

Rule Poland 1946 only - Oct 7 2:00s 0 -

Rule Poland 1947 only - May 4 2:00s 1:00 S

Rule Poland 1947 1949 - Oct Sun>=1 2:00s 0 -

Rule Poland 1948 only - Apr 18 2:00s 1:00 S

Rule Poland 1949 only - Apr 10 2:00s 1:00 S  
 Rule Poland 1957 only - Jun 2 1:00s 1:00 S  
 Rule Poland 1957 1958 - Sep lastSun 1:00s 0 -  
 Rule Poland 1958 only - Mar 30 1:00s 1:00 S  
 Rule Poland 1959 only - May 31 1:00s 1:00 S  
 Rule Poland 1959 1961 - Oct Sun>=1 1:00s 0 -  
 Rule Poland 1960 only - Apr 3 1:00s 1:00 S  
 Rule Poland 1961 1964 - May lastSun 1:00s 1:00 S  
 Rule Poland 1962 1964 - Sep lastSun 1:00s 0 -  
 #  
 Zone NAME GMTTOFF RULES FORMAT [UNTIL]  
 Zone Europe/Warsaw 1:24:00 - LMT 1880  
 1:24:00 - WMT 1915 Aug 5 # Warsaw Mean Time  
 1:00 C-Eur CE%sT 1918 Sep 16 3:00  
 2:00 Poland EE%sT 1922 Jun  
 1:00 Poland CE%sT 1940 Jun 23 2:00  
 1:00 C-Eur CE%sT 1944 Oct  
 1:00 Poland CE%sT 1977  
 1:00 W-Eur CE%sT 1988  
 1:00 EU CE%sT  
  
 # Portugal  
 #  
 # From Rui Pedro Salgueiro (1992-11-12):  
 # Portugal has recently (September, 27) changed timezone  
 # (from WET to MET or CET) to harmonize with EEC.  
 #  
 # Martin Bruckmann (1996-02-29) reports via Peter Ilieve  
 # that Portugal is reverting to 0:00 by not moving its clocks this spring.  
 # The new Prime Minister was fed up with getting up in the dark in the winter.  
 #  
 # From Paul Eggert (1996-11-12):  
 # IATA SSIM (1991-09) reports several 1991-09 and 1992-09 transitions  
 # at 02:00u, not 01:00u. Assume that these are typos.  
 # IATA SSIM (1991/1992) reports that the Azores were at -1:00.  
 # IATA SSIM (1993-02) says +0:00;  
 later issues (through 1996-09) say -1:00.  
 # Guess that the Azores changed to EU rules in 1992 (since that's when Portugal  
 # harmonized with the EU), and that they stayed +0:00 that winter.  
 #  
 # Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
 # DSH writes that despite Decree 1,469 (1915), the change to the clocks was not  
 # done every year, depending on what Spain did, because of railroad schedules.  
 # Go with Shanks & Pottenger.  
 Rule Port 1916 only - Jun 17 23:00 1:00 S  
 # Whitman gives 1916 Oct 31; go with Shanks & Pottenger.  
 Rule Port 1916 only - Nov 1 1:00 0 -  
 Rule Port 1917 only - Feb 28 23:00s 1:00 S

Rule Port 1917 1921 - Oct 14 23:00s 0 -  
 Rule Port 1918 only - Mar 1 23:00s 1:00 S  
 Rule Port 1919 only - Feb 28 23:00s 1:00 S  
 Rule Port 1920 only - Feb 29 23:00s 1:00 S  
 Rule Port 1921 only - Feb 28 23:00s 1:00 S  
 Rule Port 1924 only - Apr 16 23:00s 1:00 S  
 Rule Port 1924 only - Oct 14 23:00s 0 -  
 Rule Port 1926 only - Apr 17 23:00s 1:00 S  
 Rule Port 1926 1929 - Oct Sat>=1 23:00s 0 -  
 Rule Port 1927 only - Apr  
 9 23:00s 1:00 S  
 Rule Port 1928 only - Apr 14 23:00s 1:00 S  
 Rule Port 1929 only - Apr 20 23:00s 1:00 S  
 Rule Port 1931 only - Apr 18 23:00s 1:00 S  
 # Whitman gives 1931 Oct 8; go with Shanks & Pottenger.  
 Rule Port 1931 1932 - Oct Sat>=1 23:00s 0 -  
 Rule Port 1932 only - Apr 2 23:00s 1:00 S  
 Rule Port 1934 only - Apr 7 23:00s 1:00 S  
 # Whitman gives 1934 Oct 5; go with Shanks & Pottenger.  
 Rule Port 1934 1938 - Oct Sat>=1 23:00s 0 -  
 # Shanks & Pottenger give 1935 Apr 30; go with Whitman.  
 Rule Port 1935 only - Mar 30 23:00s 1:00 S  
 Rule Port 1936 only - Apr 18 23:00s 1:00 S  
 # Whitman gives 1937 Apr 2; go with Shanks & Pottenger.  
 Rule Port 1937 only - Apr 3 23:00s 1:00 S  
 Rule Port 1938 only - Mar 26 23:00s 1:00 S  
 Rule Port 1939 only - Apr 15 23:00s 1:00 S  
 # Whitman gives 1939 Oct 7; go with Shanks & Pottenger.  
 Rule Port 1939 only - Nov 18 23:00s 0 -  
 Rule Port 1940 only - Feb 24 23:00s 1:00 S  
 # Shanks & Pottenger give 1940 Oct 7; go with Whitman.  
 Rule Port 1940 1941 - Oct  
 5 23:00s 0 -  
 Rule Port 1941 only - Apr 5 23:00s 1:00 S  
 Rule Port 1942 1945 - Mar Sat>=8 23:00s 1:00 S  
 Rule Port 1942 only - Apr 25 22:00s 2:00 M # Midsummer  
 Rule Port 1942 only - Aug 15 22:00s 1:00 S  
 Rule Port 1942 1945 - Oct Sat>=24 23:00s 0 -  
 Rule Port 1943 only - Apr 17 22:00s 2:00 M  
 Rule Port 1943 1945 - Aug Sat>=25 22:00s 1:00 S  
 Rule Port 1944 1945 - Apr Sat>=21 22:00s 2:00 M  
 Rule Port 1946 only - Apr Sat>=1 23:00s 1:00 S  
 Rule Port 1946 only - Oct Sat>=1 23:00s 0 -  
 Rule Port 1947 1949 - Apr Sun>=1 2:00s 1:00 S  
 Rule Port 1947 1949 - Oct Sun>=1 2:00s 0 -  
 # Shanks & Pottenger say DST was observed in 1950; go with Whitman.  
 # Whitman gives Oct lastSun for 1952 on; go with Shanks & Pottenger.  
 Rule Port 1951 1965 - Apr Sun>=1 2:00s 1:00 S

Rule Port 1951 1965 - Oct Sun>=1 2:00s 0 -  
 Rule Port 1977 only - Mar 27 0:00s 1:00 S  
 Rule Port 1977 only - Sep 25 0:00s 0 -  
 Rule Port 1978 1979 - Apr Sun>=1 0:00s 1:00 S  
 Rule Port 1978 only - Oct 1 0:00s 0 -  
 Rule Port 1979 1982 - Sep lastSun  
 1:00s 0 -  
 Rule Port 1980 only - Mar lastSun 0:00s 1:00 S  
 Rule Port 1981 1982 - Mar lastSun 1:00s 1:00 S  
 Rule Port 1983 only - Mar lastSun 2:00s 1:00 S  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 # Shanks & Pottenger say the transition from LMT to WET occurred 1911-05-24;  
 # Willett says 1912-01-01. Go with Willett.  
 Zone Europe/Lisbon -0:36:32 - LMT 1884  
 -0:36:32 - LMT 1912 Jan 1 # Lisbon Mean Time  
 0:00 Port WE%sT 1966 Apr 3 2:00  
 1:00 - CET 1976 Sep 26 1:00  
 0:00 Port WE%sT 1983 Sep 25 1:00s  
 0:00 W-Eur WE%sT 1992 Sep 27 1:00s  
 1:00 EU CE%sT 1996 Mar 31 1:00u  
 0:00 EU WE%sT  
 Zone Atlantic/Azores -1:42:40 - LMT 1884 # Ponta Delgada  
 -1:54:32 - HMT 1911 May 24 # Horta Mean Time  
 -2:00 Port AZO%sT 1966 Apr 3 2:00 # Azores Time  
 -1:00 Port AZO%sT 1983 Sep 25 1:00s  
 -1:00 W-Eur AZO%sT 1992 Sep 27 1:00s  
 0:00 EU WE%sT 1993 Mar 28 1:00u  
 -1:00 EU AZO%sT  
 Zone Atlantic/Madeira -1:07:36 - LMT 1884 # Funchal  
 -1:07:36 - FMT 1911 May 24 # Funchal Mean  
 Time  
 -1:00 Port MAD%sT 1966 Apr 3 2:00 # Madeira Time  
 0:00 Port WE%sT 1983 Sep 25 1:00s  
 0:00 EU WE%sT  
  
 # Romania  
 #  
 # From Paul Eggert (1999-10-07):  
 # <a href="http://www.nineoclock.ro/POL/1778pol.html">  
 # Nine O'clock</a> (1998-10-23) reports that the switch occurred at  
 # 04:00 local time in fall 1998. For lack of better info,  
 # assume that Romania and Moldova switched to EU rules in 1997,  
 # the same year as Bulgaria.  
 #  
 # Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S  
 Rule Romania 1932 only - May 21 0:00s 1:00 S  
 Rule Romania 1932 1939 - Oct Sun>=1 0:00s 0 -  
 Rule Romania 1933 1939 - Apr Sun>=2 0:00s 1:00 S



Rule Romania 1979 only - May 27 0:00 1:00 S  
 Rule Romania 1979 only - Sep lastSun 0:00 0 -  
 Rule Romania 1980 only - Apr 5 23:00 1:00 S  
 Rule Romania 1980 only - Sep lastSun 1:00 0 -  
 Rule Romania 1991 1993 - Mar lastSun 0:00s 1:00 S  
 Rule Romania 1991 1993 - Sep lastSun 0:00s 0 -  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Europe/Bucharest 1:44:24 - LMT 1891 Oct  
 1:44:24 - BMT 1931  
 Jul 24 # Bucharest MT  
 2:00 Romania EE%sT 1981 Mar 29 2:00s  
 2:00 C-Eur EE%sT 1991  
 2:00 Romania EE%sT 1994  
 2:00 E-Eur EE%sT 1997  
 2:00 EU EE%sT

# Russia

# From Alexander Krivenyshev (2011-09-15):  
 # Based on last Russian Government Decree # 725 on August 31, 2011  
 # (Government document  
 # <a href="http://www.government.ru/gov/results/16355/print/">  
 # http://www.government.ru/gov/results/16355/print/  
 # </a>  
 # in Russian)  
 # there are few corrections have to be made for some Russian time zones...  
 # All updated Russian Time Zones were placed in table and translated to English  
 # by WorldTimeZone.com at the link below:  
 # <a href="http://www.worldtimezone.com/dst\_news/dst\_news\_russia36.htm">  
 # http://www.worldtimezone.com/dst\_news/dst\_news\_russia36.htm  
 # </a>

# From Sanjeev Gupta (2011-09-27):  
 # Scans of [Decree #23 of January 8, 1992] are available at:  
 # <a href="http://government.consultant.ru/page.aspx?1223966">  
 # http://government.consultant.ru/page.aspx?1223966  
 #  
 They are in Cyrillic letters (presumably Russian).

# From Arthur David Olson (2012-05-09):  
 # Regarding the instant when clocks in time-zone-shifting parts of Russia  
 # changed in September 2011:  
 #  
 # One source is  
 # < a href="http://government.ru/gov/results/16355/">  
 # http://government.ru/gov/results/16355/  
 # </a>  
 # which, according to translate.google.com, begins "Decree of August 31,

# 2011 No 725" and contains no other dates or "effective date" information.  
#  
# Another source is  
# <a href="http://www.rg.ru/2011/09/06/chas-zona-dok.html">  
# http://www.rg.ru/2011/09/06/chas-zona-dok.html  
# </a>  
# which, according to translate.google.com, begins "Resolution of the  
# Government of the Russian Federation on August 31, 2011 N 725" and also  
# contains "Date first official publication: September 6, 2011 Posted on:  
# in the 'RG' - Federal Issue number 5573 September 6, 2011" but which  
# does not contain any "effective date" information.  
#  
# Another source is  
# <a href="http://en.wikipedia.org/wiki/Oymyakonsky\_District#cite\_note-RuTime-7">  
#  
# http://en.wikipedia.org/wiki/Oymyakonsky\_District#cite\_note-RuTime-7  
# </a>  
# which, in note 8, contains "Resolution #725 of August 31, 2011...  
# Effective as of after 7 days following the day of the official publication"  
# but which does not contain any reference to September 6, 2011.  
#  
# The Wikipedia article refers to  
# <a href="http://base.consultant.ru/cons/cgi/online.cgi?req=doc;base=LAW;n=118896">  
# http://base.consultant.ru/cons/cgi/online.cgi?req=doc;base=LAW;n=118896  
# </a>  
# which seems to copy the text of the government.ru page.  
#  
# Tobias Conradi combines Wikipedia's  
# "as of after 7 days following the day of the official publication"  
# with www.rg.ru's "Date of first official publication: September 6, 2011" to get  
# September 13, 2011 as the cutover date (unusually, a Tuesday, as Tobias Conradi notes).  
#  
# None of the sources indicates a time of day for changing clocks.  
#  
# Go with 2011-09-13 0:00s.

# From Paul Eggert  
(2006-03-22):  
# Except for Moscow after 1919-07-01, I invented the time zone abbreviations.  
# Moscow time zone abbreviations after 1919-07-01, and Moscow rules after 1991,  
# are from Andrey A. Chernov. The rest is from Shanks & Pottenger,  
# except we follow Chernov's report that 1992 DST transitions were Sat  
# 23:00, not Sun 02:00s.  
#  
# From Stanislaw A. Kuzikowski (1994-06-29):  
# But now it is some months since Novosibirsk is 3 hours ahead of Moscow!  
# I do not know why they have decided to make this change;  
# as far as I remember it was done exactly during winter->summer switching

```

# so we (Novosibirsk) simply did not switch.
#
# From Andrey A. Chernov (1996-10-04):
# `MSK' and `MSD' were born and used initially on Moscow computers with
# UNIX-like Oses by several developer groups (e.g. Demos group, Kiae group)....
# The next step was the UUCP network, the Relcom predecessor
# (used mainly for mail), and MSK/MSD was actively used there.
#
# From Chris Carrier (1996-10-30):
# According
# to a friend of mine who rode the Trans-Siberian Railroad from
# Moscow to Irkutsk in 1995, public air and rail transport in Russia ...
# still follows Moscow time, no matter where in Russia it is located.
#
# For Grozny, Chechnya, we have the following story from
# John Daniszewski, "Scavengers in the Rubble", Los Angeles Times (2001-02-07):
# News--often false--is spread by word of mouth. A rumor that it was
# time to move the clocks back put this whole city out of sync with
# the rest of Russia for two weeks--even soldiers stationed here began
# enforcing curfew at the wrong time.
#
# From Gwillim Law (2001-06-05):
# There's considerable evidence that Sakhalin Island used to be in
# UTC+11, and has changed to UTC+10, in this decade. I start with the
# SSIM, which listed Yuzhno-Sakhalinsk in zone RU10 along with Magadan
# until February 1997, and then in RU9 with Khabarovsk and Vladivostok
# since September 1997.... Although the Kuril Islands are
# administratively part of
# Sakhalin oblast', they appear to have
# remained on UTC+11 along with Magadan.
#
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
#
# Kaliningradskaya oblast'.
Zone Europe/Kaliningrad 1:22:00 - LMT 1893 Apr
  1:00 C-Eur CE%sT 1945
  2:00 Poland CE%sT 1946
  3:00 Russia MSK/MSD 1991 Mar 31 2:00s
  2:00 Russia EE%sT 2011 Mar 27 2:00s
  3:00 - FET # Further-eastern European Time
#
# From Oscar van Vlijmen (2001-08-25): [This region consists of]
# Respublika Adygeya, Arkhangel'skaya oblast',
# Belgorodskaya oblast', Bryanskaya oblast', Vladimirskaaya oblast',
# Vologodskaya oblast', Voronezhskaya oblast',
# Respublika Dagestan, Ivanovskaya oblast', Respublika Ingushetiya,
# Kabardino-Balkarskaya Respublika, Respublika Kalmykiya,
# Kalyzhskaya oblast', Respublika Karachaevo-Cherkessiya,

```

# Respublika Kareliya, Respublika Komi,  
 # Kostromskaya oblast', Krasnodarskij kraj, Kurskaya oblast',  
 # Leningradskaya oblast', Lipetskaya oblast', Respublika Marij El,  
 # Respublika Mordoviya, Moskva, Moskovskaya  
 oblast',  
 # Murmanskaya oblast', Nenetskij avtonomnyj okrug,  
 # Nizhegorodskaya oblast', Novgorodskaya oblast', Orlovskaya oblast',  
 # Penzenskaya oblast', Pskovskaya oblast', Rostovskaya oblast',  
 # Ryazanskaya oblast', Sankt-Peterburg,  
 # Respublika Severnaya Osetiya, Smolenskaya oblast',  
 # Stavropol'skij kraj, Tambovskaya oblast', Respublika Tatarstan,  
 # Tverskaya oblast', Tyl'skaya oblast', Ul'yanovskaya oblast',  
 # Chechenskaya Respublika, Chuvashskaya oblast',  
 # Yaroslavskaya oblast'  
 Zone Europe/Moscow 2:30:20 - LMT 1880  
 2:30 - MMT 1916 Jul 3 # Moscow Mean Time  
 2:30:48 Russia %s 1919 Jul 1 2:00  
 3:00 Russia MSK/MSD 1922 Oct  
 2:00 - EET 1930 Jun 21  
 3:00 Russia MSK/MSD 1991 Mar 31 2:00s  
 2:00 Russia EE%sT 1992 Jan 19 2:00s  
 3:00 Russia MSK/MSD 2011 Mar 27 2:00s  
 4:00 - MSK  
 #  
 # Astrakhanskaya oblast', Kirovskaya oblast', Saratovskaya oblast',  
 # Volgogradskaya oblast'. Shanks & Pottenger say Kirov is still at +0400  
 # but Wikipedia (2006-05-09) says +0300.  
 Perhaps it switched after the  
 # others? But we have no data.  
 Zone Europe/Volgograd 2:57:40 - LMT 1920 Jan 3  
 3:00 - TSAT 1925 Apr 6 # Tsaritsyn Time  
 3:00 - STAT 1930 Jun 21 # Stalingrad Time  
 4:00 - STAT 1961 Nov 11  
 4:00 Russia VOL%sT 1989 Mar 26 2:00s # Volgograd T  
 3:00 Russia VOL%sT 1991 Mar 31 2:00s  
 4:00 - VOLT 1992 Mar 29 2:00s  
 3:00 Russia VOL%sT 2011 Mar 27 2:00s  
 4:00 - VOLT  
 #  
 # From Oscar van Vlijmen (2001-08-25): [This region consists of]  
 # Samarskaya oblast', Udmurtskaya respublika  
 Zone Europe/Samara 3:20:36 - LMT 1919 Jul 1 2:00  
 3:00 - SAMT 1930 Jun 21  
 4:00 - SAMT 1935 Jan 27  
 4:00 Russia KUY%sT 1989 Mar 26 2:00s # Kuybyshev  
 3:00 Russia KUY%sT 1991 Mar 31 2:00s  
 2:00 Russia KUY%sT 1991 Sep 29 2:00s  
 3:00 - KUYT 1991 Oct 20 3:00

4:00 Russia SAM%ST 2010 Mar 28 2:00s # Samara Time

3:00 Russia SAM%ST 2011 Mar 27 2:00s

4:00 - SAMT

#

# From Oscar van Vlijmen (2001-08-25): [This region consists of]

# Respublika

Bashkortostan, Komi-Permyatskij avtonomnyj okrug,

# Kurganskaya oblast', Orenburgskaya oblast', Permskaya oblast',

# Sverdlovskaya oblast', Tyumenskaya oblast',

# Khanty-Manskijskij avtonomnyj okrug, Chelyabinskaya oblast',

# Yamalo-Nenetskij avtonomnyj okrug.

Zone Asia/Yekaterinburg 4:02:24 - LMT 1919 Jul 15 4:00

4:00 - SVET 1930 Jun 21 # Sverdlovsk Time

5:00 Russia SVE%ST 1991 Mar 31 2:00s

4:00 Russia SVE%ST 1992 Jan 19 2:00s

5:00 Russia YEK%ST 2011 Mar 27 2:00s

6:00 - YEKT # Yekaterinburg Time

#

# From Oscar van Vlijmen (2001-08-25): [This region consists of]

# Respublika Altaj, Altajskij kraj, Omskaya oblast'.

Zone Asia/Omsk 4:53:36 - LMT 1919 Nov 14

5:00 - OMST 1930 Jun 21 # Omsk Time

6:00 Russia OMS%ST 1991 Mar 31 2:00s

5:00 Russia OMS%ST 1992 Jan 19 2:00s

6:00 Russia OMS%ST 2011 Mar 27 2:00s

7:00 - OMST

#

# From Paul Eggert (2006-08-19): I'm guessing about Tomsk here; it's

# not clear when it switched from +7 to +6.

# Novosibirskaya

oblast', Tomskaya oblast'.

Zone Asia/Novosibirsk 5:31:40 - LMT 1919 Dec 14 6:00

6:00 - NOVST 1930 Jun 21 # Novosibirsk Time

7:00 Russia NOV%ST 1991 Mar 31 2:00s

6:00 Russia NOV%ST 1992 Jan 19 2:00s

7:00 Russia NOV%ST 1993 May 23 # say Shanks & P.

6:00 Russia NOV%ST 2011 Mar 27 2:00s

7:00 - NOVST

# From Alexander Krivenyshev (2009-10-13):

# Kemerovo oblast' (Kemerovo region) in Russia will change current time zone on

# March 28, 2010:

# from current Russia Zone 6 - Krasnoyarsk Time Zone (KRA) UTC +0700

# to Russia Zone 5 - Novosibirsk Time Zone (NOV) UTC +0600

#

# This is according to Government of Russia decree # 740, on September

# 14, 2009 "Application in the territory of the Kemerovo region the Fifth

```
# time zone." ("Russia Zone 5" or old "USSR Zone 5" is GMT +0600)
#
# Russian Government web site (Russian language)
# <a href="http://www.government.ru/content/governmentactivity/rfgovernmentdecisions/archiv">
# http://www.government.ru/content/governmentactivity/rfgovernmentdecisions/archive/2009/09/14/991633.htm
#
</a>
# or Russian-English translation by WorldTimeZone.com with reference
# map to local region and new Russia Time Zone map after March 28, 2010
# <a href="http://www.worldtimezone.com/dst_news/dst_news_russia03.html">
# http://www.worldtimezone.com/dst_news/dst_news_russia03.html
# </a>
#
# Thus, when Russia will switch to DST on the night of March 28, 2010
# Kemerovo region (Kemerovo oblast') will not change the clock.
#
# As a result, Kemerovo oblast' will be in the same time zone as
# Novosibirsk, Omsk, Tomsk, Barnaul and Altai Republic.
```

Zone Asia/Novokuznetsk 5:48:48 - NMT 1920 Jan 6

```
6:00 - KRAT 1930 Jun 21 # Krasnoyarsk Time
7:00 Russia KRA%ST 1991 Mar 31 2:00s
6:00 Russia KRA%ST 1992 Jan 19 2:00s
7:00 Russia KRA%ST 2010 Mar 28 2:00s
6:00 Russia NOV%ST 2011 Mar 27 2:00s
7:00 - NOVT # Novosibirsk/Novokuznetsk Time
```

#

# From Oscar van Vlijmen (2001-08-25): [This region consists of]

# Krasnoyarskij kraj,

#

Tajmyrskij (Dolgano-Nenetskij) avtonomnyj okrug,

# Respublika Tuva, Respublika Khakasiya, Evenkijskij avtonomnyj okrug.

Zone Asia/Krasnoyarsk 6:11:20 - LMT 1920 Jan 6

```
6:00 - KRAT 1930 Jun 21 # Krasnoyarsk Time
7:00 Russia KRA%ST 1991 Mar 31 2:00s
6:00 Russia KRA%ST 1992 Jan 19 2:00s
7:00 Russia KRA%ST 2011 Mar 27 2:00s
8:00 - KRAT
```

#

# From Oscar van Vlijmen (2001-08-25): [This region consists of]

# Respublika Buryatiya, Irkutskaya oblast',

# Ust'-Ordynskij Buryatskij avtonomnyj okrug.

Zone Asia/Irkutsk 6:57:20 - LMT 1880

```
6:57:20 - IMT 1920 Jan 25 # Irkutsk Mean Time
7:00 - IRKT 1930 Jun 21 # Irkutsk Time
8:00 Russia IRK%ST 1991 Mar 31 2:00s
7:00 Russia IRK%ST 1992 Jan 19 2:00s
```

8:00 Russia IRK%ST 2011 Mar 27 2:00s

9:00 - IRKT

#

# From Oscar van Vlijmen (2003-10-18): [This region consists of]

# Aginskij Buryatskij avtonomnyj okrug, Amurskaya oblast',

# [parts of] Respublika Sakha (Yakutiya), Chitinskaya oblast'.

# From Oscar van Vlijmen

(2009-11-29):

# ...some regions of [Russia] were merged with others since 2005...

# Some names were changed, no big deal, except for one instance: a new name.

# YAK/YAKST: UTC+9 Zabajkal'skij kraj.

# From Oscar van Vlijmen (2009-11-29):

# The Sakha districts are: Aldanskij, Amginskij, Anabarskij,

# Verkhnevilyujskij, Vilyujskij, Gornyj,

# Zhiganskij, Kobyajskij, Lenskij, Megino-Kangalasskij, Mirninskij,

# Namskij, Nyurbinskij, Olenyokskij, Olyokminskij,

# Suntarskij, Tattinskij, Ust'-Aldanskij, Khangalasskij,

# Churapchinskij, Eveno-Bytantajskij Natsional'nij.

Zone Asia/Yakutsk 8:38:40 - LMT 1919 Dec 15

8:00 - YAKT 1930 Jun 21 # Yakutsk Time

9:00 Russia YAK%ST 1991 Mar 31 2:00s

8:00 Russia YAK%ST 1992 Jan 19 2:00s

9:00 Russia YAK%ST 2011 Mar 27 2:00s

10:00 - YAKT

#

# From Oscar van Vlijmen (2003-10-18): [This region consists of]

# Evrejskaya avtonomnaya oblast', Khabarovskij kraj, Primorskij kraj,

# [parts of] Respublika Sakha (Yakutiya).

# From Oscar van Vlijmen

(2009-11-29):

# The Sakha districts are: Bulunskij, Verkhoyanskij, ... Ust'-Yanskij.

Zone Asia/Vladivostok 8:47:44 - LMT 1922 Nov 15

9:00 - VLAT 1930 Jun 21 # Vladivostok Time

10:00 Russia VLA%ST 1991 Mar 31 2:00s

9:00 Russia VLA%ST 1992 Jan 19 2:00s

10:00 Russia VLA%ST 2011 Mar 27 2:00s

11:00 - VLAT

# From Arthur David Olson (2012-05-09):

# Tomponskij and Ust'-Majskij switched from Vladivostok time to Yakutsk time

# in 2011.

#

# From Paul Eggert (2012-11-25):

# Shanks and Pottenger (2003) has Khandyga on Yakutsk time.

# Make a wild guess that it switched to Vladivostok time in 2004.  
# This transition is no doubt wrong, but we have no better info.  
#  
Zone Asia/Khandyga 9:02:13 - LMT 1919 Dec 15  
8:00 - YAKT 1930 Jun 21 # Yakutsk Time  
9:00 Russia YAK%ST 1991 Mar 31 2:00s  
8:00 Russia YAK%ST 1992 Jan 19 2:00s  
9:00 Russia YAK%ST 2004  
10:00 Russia VLA%ST 2011 Mar 27 2:00s  
11:00 - VLAT 2011 Sep 13 0:00s # Decree 725?  
10:00 - YAKT

#  
# Sakhalinskaya  
oblast'.  
# The Zone name should be Yuzhno-Sakhalinsk, but that's too long.  
Zone Asia/Sakhalin 9:30:48 - LMT 1905 Aug 23  
9:00 - CJT 1938  
9:00 - JST 1945 Aug 25  
11:00 Russia SAK%ST 1991 Mar 31 2:00s # Sakhalin T.  
10:00 Russia SAK%ST 1992 Jan 19 2:00s  
11:00 Russia SAK%ST 1997 Mar lastSun 2:00s  
10:00 Russia SAK%ST 2011 Mar 27 2:00s  
11:00 - SAKT

#  
# From Oscar van Vlijmen (2003-10-18): [This region consists of]  
# Magadanskaya oblast', Respublika Sakha (Yakutiya).  
# Probably also: Kuril Islands.

# From Oscar van Vlijmen (2009-11-29):  
# The Sakha districts are: Abyjskij, Allaikhovskij, Verkhhhnekolymskij, Momskij,  
# Nizhnekolymskij, ... Srednekolymskij.  
Zone Asia/Magadan 10:03:12 - LMT 1924 May 2  
10:00 - MAGT 1930 Jun 21 # Magadan Time  
11:00 Russia MAG%ST 1991 Mar 31 2:00s  
10:00 Russia MAG%ST 1992 Jan 19 2:00s  
11:00 Russia MAG%ST 2011 Mar 27 2:00s  
12:00 - MAGT

# From Arthur David Olson (2012-05-09):  
# Ojmyakonskij and the Kuril Islands switched  
from  
# Magadan time to Vladivostok time in 2011.  
Zone Asia/Ust-Nera 9:32:54 - LMT 1919 Dec 15  
8:00 - YAKT 1930 Jun 21 # Yakutsk Time  
9:00 Russia YAKT 1981 Apr 1  
11:00 Russia MAG%ST 1991 Mar 31 2:00s  
10:00 Russia MAG%ST 1992 Jan 19 2:00s



11:00 Russia MAG%ST 2011 Mar 27 2:00s  
12:00 - MAGT 2011 Sep 13 0:00s # Decree 725?  
11:00 - VLAT

# From Oscar van Vlijmen (2001-08-25): [This region consists of]  
# Kamchatskaya oblast', Koryakskij avtonomnyj okrug.  
#  
# The Zone name should be Asia/Petropavlovsk-Kamchatski, but that's too long.

Zone Asia/Kamchatka 10:34:36 - LMT 1922 Nov 10

11:00 - PETT 1930 Jun 21 # P-K Time  
12:00 Russia PET%ST 1991 Mar 31 2:00s  
11:00 Russia PET%ST 1992 Jan 19 2:00s  
12:00 Russia PET%ST 2010 Mar 28 2:00s  
11:00 Russia PET%ST 2011 Mar 27 2:00s  
12:00 - PETT

#

# Chukotskij avtonomnyj okrug  
Zone Asia/Anadyr 11:49:56 - LMT 1924 May 2  
12:00 - ANAT 1930 Jun 21 # Anadyr Time  
13:00 Russia ANA%ST 1982 Apr 1 0:00s  
12:00 Russia ANA%ST 1991  
Mar 31 2:00s  
11:00 Russia ANA%ST 1992 Jan 19 2:00s  
12:00 Russia ANA%ST 2010 Mar 28 2:00s  
11:00 Russia ANA%ST 2011 Mar 27 2:00s  
12:00 - ANAT

# Serbia

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Europe/Belgrade 1:22:00 - LMT 1884

1:00 - CET 1941 Apr 18 23:00  
1:00 C-Eur CE%ST 1945  
1:00 - CET 1945 May 8 2:00s  
1:00 1:00 CEST 1945 Sep 16 2:00s

# Metod Kozelj reports that the legal date of  
# transition to EU rules was 1982-11-27, for all of Yugoslavia at the time.

# Shanks & Pottenger don't give as much detail, so go with Kozelj.

1:00 - CET 1982 Nov 27  
1:00 EU CE%ST

Link Europe/Belgrade Europe/Ljubljana # Slovenia

Link Europe/Belgrade Europe/Podgorica # Montenegro

Link Europe/Belgrade Europe/Sarajevo # Bosnia and Herzegovina

Link Europe/Belgrade Europe/Skopje # Macedonia

Link Europe/Belgrade Europe/Zagreb # Croatia

# Slovakia

Link Europe/Prague Europe/Bratislava

# Slovenia  
# see Serbia

# Spain

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

# For

1917-1919 Whitman gives Apr Sat>=1 - Oct Sat>=1;

# go with Shanks & Pottenger.

Rule Spain 1917 only - May 5 23:00s 1:00 S

Rule Spain 1917 1919 - Oct 6 23:00s 0 -

Rule Spain 1918 only - Apr 15 23:00s 1:00 S

Rule Spain 1919 only - Apr 5 23:00s 1:00 S

# Whitman gives 1921 Feb 28 - Oct 14; go with Shanks & Pottenger.

Rule Spain 1924 only - Apr 16 23:00s 1:00 S

# Whitman gives 1924 Oct 14; go with Shanks & Pottenger.

Rule Spain 1924 only - Oct 4 23:00s 0 -

Rule Spain 1926 only - Apr 17 23:00s 1:00 S

# Whitman says no DST in 1929; go with Shanks & Pottenger.

Rule Spain 1926 1929 - Oct Sat>=1 23:00s 0 -

Rule Spain 1927 only - Apr 9 23:00s 1:00 S

Rule Spain 1928 only - Apr 14 23:00s 1:00 S

Rule Spain 1929 only - Apr 20 23:00s 1:00 S

# Whitman gives 1937 Jun 16, 1938 Apr 16, 1940 Apr 13;

# go with Shanks & Pottenger.

Rule Spain 1937 only - May 22 23:00s 1:00 S

Rule Spain 1937 1939 - Oct Sat>=1 23:00s 0 -

Rule Spain 1938 only - Mar 22 23:00s 1:00 S

Rule Spain 1939 only - Apr 15 23:00s 1:00 S

Rule Spain 1940 only - Mar 16 23:00s 1:00 S

#

Whitman says no DST 1942-1945; go with Shanks & Pottenger.

Rule Spain 1942 only - May 2 22:00s 2:00 M # Midsummer

Rule Spain 1942 only - Sep 1 22:00s 1:00 S

Rule Spain 1943 1946 - Apr Sat>=13 22:00s 2:00 M

Rule Spain 1943 only - Oct 3 22:00s 1:00 S

Rule Spain 1944 only - Oct 10 22:00s 1:00 S

Rule Spain 1945 only - Sep 30 1:00 1:00 S

Rule Spain 1946 only - Sep 30 0:00 0 -

Rule Spain 1949 only - Apr 30 23:00 1:00 S

Rule Spain 1949 only - Sep 30 1:00 0 -

Rule Spain 1974 1975 - Apr Sat>=13 23:00 1:00 S

Rule Spain 1974 1975 - Oct Sun>=1 1:00 0 -

Rule Spain 1976 only - Mar 27 23:00 1:00 S

Rule Spain 1976 1977 - Sep lastSun 1:00 0 -

Rule Spain 1977 1978 - Apr 2 23:00 1:00 S

Rule Spain 1978 only - Oct 1 1:00 0 -

# The following rules are copied from Morocco from 1967 through 1978.

Rule SpainAfrica 1967 only - Jun 3 12:00 1:00 S

Rule SpainAfrica 1967 only - Oct 1 0:00 0 -  
 Rule SpainAfrica 1974 only - Jun 24 0:00 1:00 S  
 Rule SpainAfrica  
 1974 only - Sep 1 0:00 0 -  
 Rule SpainAfrica 1976 1977 - May 1 0:00 1:00 S  
 Rule SpainAfrica 1976 only - Aug 1 0:00 0 -  
 Rule SpainAfrica 1977 only - Sep 28 0:00 0 -  
 Rule SpainAfrica 1978 only - Jun 1 0:00 1:00 S  
 Rule SpainAfrica 1978 only - Aug 4 0:00 0 -  
 # Zone NAME GMTOFF RULES FORMAT [UNTIL]  
 Zone Europe/Madrid -0:14:44 - LMT 1901 Jan 1 0:00s  
 0:00 Spain WE%sT 1946 Sep 30  
 1:00 Spain CE%sT 1979  
 1:00 EU CE%sT  
 Zone Africa/Ceuta -0:21:16 - LMT 1901  
 0:00 - WET 1918 May 6 23:00  
 0:00 1:00 WEST 1918 Oct 7 23:00  
 0:00 - WET 1924  
 0:00 Spain WE%sT 1929  
 0:00 SpainAfrica WE%sT 1984 Mar 16  
 1:00 - CET 1986  
 1:00 EU CE%sT  
 Zone Atlantic/Canary -1:01:36 - LMT 1922 Mar # Las Palmas de Gran C.  
 -1:00 - CANT 1946 Sep 30 1:00 # Canaries Time  
 0:00 - WET 1980 Apr 6 0:00s  
 0:00 1:00 WEST 1980 Sep 28 0:00s  
 0:00 EU WE%sT  
 # IATA SSIM (1996-09) says the Canaries switch at 2:00u, not 1:00u.  
 # Ignore this for now, as the Canaries are part of the  
 EU.  
  
 # Sweden  
  
 # From Ivan Nilsson (2001-04-13), superseding Shanks & Pottenger:  
 #  
 # The law "Svensk forfattningssamling 1878, no 14" about standard time in 1879:  
 # From the beginning of 1879 (that is 01-01 00:00) the time for all  
 # places in the country is "the mean solar time for the meridian at  
 # three degrees, or twelve minutes of time, to the west of the  
 # meridian of the Observatory of Stockholm". The law is dated 1878-05-31.  
 #  
 # The observatory at that time had the meridian 18 degrees 03' 30"  
 # eastern longitude = 01:12:14 in time. Less 12 minutes gives the  
 # national standard time as 01:00:14 ahead of GMT....  
 #  
 # About the beginning of CET in Sweden. The lawtext ("Svensk  
 # forfattningssamling 1899, no 44") states, that "from the beginning  
 # of 1900... .. the same as the mean solar time for the meridian at

# the distance of one hour of time from the meridian of the English  
# observatory at Greenwich, or at 12 minutes 14 seconds to the west  
# from the meridian of the Observatory  
of Stockholm". The law is dated  
# 1899-06-16. In short: At 1900-01-01 00:00:00 the new standard time  
# in Sweden is 01:00:00 ahead of GMT.  
#  
# 1916: The lawtext ("Svensk forfattningssamling 1916, no 124") states  
# that "1916-05-15 is considered to begin one hour earlier". It is  
# pretty obvious that at 05-14 23:00 the clocks are set to 05-15 00:00....  
# Further the law says, that "1916-09-30 is considered to end one hour later".  
#  
# The laws regulating [DST] are available on the site of the Swedish  
# Parliament beginning with 1985 - the laws regulating 1980/1984 are  
# not available on the site (to my knowledge they are only available  
# in Swedish): <<http://www.riksdagen.se/english/work/sfst.asp>> (type  
# "sommartid" without the quotes in the field "Fritext" and then click  
# the Sok-button).  
#  
# (2001-05-13):  
#  
# I have now found a newspaper stating that at 1916-10-01 01:00  
# summertime the church-clocks etc were set back one hour to show  
# 1916-10-01 00:00 standard time. The article  
also reports that some  
# people thought the switch to standard time would take place already  
# at 1916-10-01 00:00 summer time, but they had to wait for another  
# hour before the event took place.  
#  
# Source: The newspaper "Dagens Nyheter", 1916-10-01, page 7 upper left.

# Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Europe/Stockholm 1:12:12 - LMT 1879 Jan 1

1:00:14 - SET 1900 Jan 1 # Swedish Time

1:00 - CET 1916 May 14 23:00

1:00 1:00 CEST 1916 Oct 1 01:00

1:00 - CET 1980

1:00 EU CE%sT

# Switzerland

# From Howse:

# By the end of the 18th century clocks and watches became commonplace  
# and their performance improved enormously. Communities began to keep  
# mean time in preference to apparent time -- Geneva from 1780 ....

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

# From Whitman (who writes ``Midnight?"):

# Rule Swiss 1940 only - Nov 2 0:00 1:00 S

# Rule Swiss 1940 only - Dec 31 0:00 0 -

```

# From Shanks & Pottenger:
# Rule Swiss 1941 1942 - May Sun>=1 2:00 1:00 S
#
# Rule Swiss 1941 1942 - Oct Sun>=1 0:00 0 -

# From Alois Treindl (2008-12-17):
# I have researched the DST usage in Switzerland during the 1940ies.
#
# As I wrote in an earlier message, I suspected the current tzdata values
# to be wrong. This is now verified.
#
# I have found copies of the original ruling by the Swiss Federal
# government, in 'Eidgen[ossische Gesetzessammlung 1941 and 1942' (Swiss
# federal law collection)...
#
# DST began on Monday 5 May 1941, 1:00 am by shifting the clocks to 2:00 am
# DST ended on Monday 6 Oct 1941, 2:00 am by shifting the clocks to 1:00 am.
#
# DST began on Monday, 4 May 1942 at 01:00 am
# DST ended on Monday, 5 Oct 1942 at 02:00 am
#
# There was no DST in 1940, I have checked the law collection carefully.
# It is also indicated by the fact that the 1942 entry in the law
# collection points back to 1941 as a reference, but no reference to any
# other years are made.
#
# Newspaper articles I have read in the archives on 6 May 1941 reported
#
# about the introduction of DST (Sommerzeit in German) during the previous
# night as an absolute novelty, because this was the first time that such
# a thing had happened in Switzerland.
#
# I have also checked 1916, because one book source (Gabriel, Traite de
# l'heure dans le monde) claims that Switzerland had DST in 1916. This is
# false, no official document could be found. Probably Gabriel got misled
# by references to Germany, which introduced DST in 1916 for the first time.
#
# The tzdata rules for Switzerland must be changed to:
# Rule Swiss 1941 1942 - May Mon>=1 1:00 1:00 S
# Rule Swiss 1941 1942 - Oct Mon>=1 2:00 0 -
#
# The 1940 rules must be deleted.
#
# One further detail for Switzerland, which is probably out of scope for
# most users of tzdata:
# The zone file
# Zone Europe/Zurich 0:34:08 - LMT 1848 Sep 12
# 0:29:44 - BMT 1894 Jun #Bern Mean Time

```

```

#
    1:00 Swiss CE%ST 1981
#
    1:00 EU CE%ST
# describes all of Switzerland correctly, with the exception of
# the Cantone Geneve (Geneva, Genf). Between 1848 and 1894 Geneve did not
# follow Bern Mean Time but kept its own local mean time.
# To represent this, an extra zone would be needed.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule Swiss 1941 1942 - May Mon>=1 1:00 1:00 S
Rule Swiss 1941 1942 - Oct Mon>=1 2:00 0 -
# Zone NAME GMTOFF RULES FORMAT [UNTIL]
Zone Europe/Zurich 0:34:08 - LMT 1848 Sep 12
    0:29:44 - BMT 1894 Jun # Bern Mean Time
    1:00 Swiss CE%ST 1981
    1:00 EU CE%ST

# Turkey

# From Amar Devegowda (2007-01-03):
# The time zone rules for Istanbul, Turkey have not been changed for years now.
# ... The latest rules are available at -
# http://www.timeanddate.com/worldclock/timezone.html?n=107
# From Steffen Thorsen (2007-01-03):
# I have been able to find press records back to 1996 which all say that
# DST started 01:00
    local time and end at 02:00 local time. I am not sure
# what happened before that. One example for each year from 1996 to 2001:
# http://newspot.byegm.gov.tr/arsiv/1996/21/N4.htm
# http://www.byegm.gov.tr/YAYINLARIMIZ/CHR/ING97/03/97X03X25.TXT
# http://www.byegm.gov.tr/YAYINLARIMIZ/CHR/ING98/03/98X03X02.HTM
# http://www.byegm.gov.tr/YAYINLARIMIZ/CHR/ING99/10/99X10X26.HTM#%2016
# http://www.byegm.gov.tr/YAYINLARIMIZ/CHR/ING2000/03/00X03X06.HTM#%2021
# http://www.byegm.gov.tr/YAYINLARIMIZ/CHR/ING2001/03/23x03x01.HTM#%2027
# From Paul Eggert (2007-01-03):
# Prefer the above source to Shanks & Pottenger for time stamps after 1990.

# From Steffen Thorsen (2007-03-09):
# Starting 2007 though, it seems that they are adopting EU's 1:00 UTC
# start/end time, according to the following page (2007-03-07):
# http://www.ntvmsnbc.com/news/402029.asp
# The official document is located here - it is in Turkish...:
# http://rega.basbakanlik.gov.tr/eskiler/2007/03/20070307-7.htm
# I was able to locate
    the following seemingly official document
# (on a non-government server though) describing dates between 2002 and 2006:
# http://www.alomaliye.com/bkk\_2002\_3769.htm

```

# From G&ouml;kdeniz Karada&#x011f; (2011-03-10):  
#  
# According to the articles linked below, Turkey will change into summer  
# time zone (GMT+3) on March 28, 2011 at 3:00 a.m. instead of March 27.  
# This change is due to a nationwide exam on 27th.  
#  
# <a href="http://www.worldbulletin.net/?aType=haber&ArticleID=70872">  
# http://www.worldbulletin.net/?aType=haber&ArticleID=70872  
# </a>  
# Turkish:  
# <a href="http://www.hurriyet.com.tr/ekonomi/17230464.asp?gid=373">  
# http://www.hurriyet.com.tr/ekonomi/17230464.asp?gid=373  
# </a>

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule Turkey 1916 only - May 1 0:00 1:00 S

Rule Turkey 1916 only - Oct 1 0:00 0 -

Rule Turkey 1920 only - Mar 28 0:00 1:00 S

Rule Turkey 1920 only - Oct 25 0:00 0 -

Rule Turkey 1921 only - Apr 3 0:00 1:00 S

Rule Turkey 1921 only - Oct 3 0:00 0 -

Rule Turkey 1922 only - Mar 26 0:00 1:00 S

Rule Turkey 1922 only - Oct

8 0:00 0 -

# Whitman gives 1923 Apr 28 - Sep 16 and no DST in 1924-1925;

# go with Shanks & Pottenger.

Rule Turkey 1924 only - May 13 0:00 1:00 S

Rule Turkey 1924 1925 - Oct 1 0:00 0 -

Rule Turkey 1925 only - May 1 0:00 1:00 S

Rule Turkey 1940 only - Jun 30 0:00 1:00 S

Rule Turkey 1940 only - Oct 5 0:00 0 -

Rule Turkey 1940 only - Dec 1 0:00 1:00 S

Rule Turkey 1941 only - Sep 21 0:00 0 -

Rule Turkey 1942 only - Apr 1 0:00 1:00 S

# Whitman omits the next two transition and gives 1945 Oct 1;

# go with Shanks & Pottenger.

Rule Turkey 1942 only - Nov 1 0:00 0 -

Rule Turkey 1945 only - Apr 2 0:00 1:00 S

Rule Turkey 1945 only - Oct 8 0:00 0 -

Rule Turkey 1946 only - Jun 1 0:00 1:00 S

Rule Turkey 1946 only - Oct 1 0:00 0 -

Rule Turkey 1947 1948 - Apr Sun>=16 0:00 1:00 S

Rule Turkey 1947 1950 - Oct Sun>=2 0:00 0 -

Rule Turkey 1949 only - Apr 10 0:00 1:00 S

Rule Turkey 1950 only - Apr 19 0:00 1:00 S

Rule Turkey 1951 only - Apr 22 0:00 1:00 S

Rule Turkey 1951 only - Oct

8 0:00 0 -  
Rule Turkey 1962 only - Jul 15 0:00 1:00 S  
Rule Turkey 1962 only - Oct 8 0:00 0 -  
Rule Turkey 1964 only - May 15 0:00 1:00 S  
Rule Turkey 1964 only - Oct 1 0:00 0 -  
Rule Turkey 1970 1972 - May Sun>=2 0:00 1:00 S  
Rule Turkey 1970 1972 - Oct Sun>=2 0:00 0 -  
Rule Turkey 1973 only - Jun 3 1:00 1:00 S  
Rule Turkey 1973 only - Nov 4 3:00 0 -  
Rule Turkey 1974 only - Mar 31 2:00 1:00 S  
Rule Turkey 1974 only - Nov 3 5:00 0 -  
Rule Turkey 1975 only - Mar 30 0:00 1:00 S  
Rule Turkey 1975 1976 - Oct lastSun 0:00 0 -  
Rule Turkey 1976 only - Jun 1 0:00 1:00 S  
Rule Turkey 1977 1978 - Apr Sun>=1 0:00 1:00 S  
Rule Turkey 1977 only - Oct 16 0:00 0 -  
Rule Turkey 1979 1980 - Apr Sun>=1 3:00 1:00 S  
Rule Turkey 1979 1982 - Oct Mon>=11 0:00 0 -  
Rule Turkey 1981 1982 - Mar lastSun 3:00 1:00 S  
Rule Turkey 1983 only - Jul 31 0:00 1:00 S  
Rule Turkey 1983 only - Oct 2 0:00 0 -  
Rule Turkey 1985 only - Apr 20 0:00 1:00 S  
Rule Turkey 1985 only - Sep 28 0:00 0 -  
Rule Turkey 1986 1990 - Mar lastSun 2:00s 1:00 S  
Rule Turkey 1986 1990 - Sep lastSun 2:00s 0 -  
Rule Turkey 1991 2006 - Mar lastSun 1:00s 1:00 S  
Rule Turkey 1991 1995 - Sep lastSun 1:00s 0 -  
Rule Turkey 1996 2006 - Oct lastSun 1:00s 0 -

#

Zone NAME GMTOFF RULES FORMAT [UNTIL]

Zone Europe/Istanbul 1:55:52 - LMT 1880

1:56:56 - IMT 1910 Oct # Istanbul Mean Time?

2:00 Turkey EE%sT 1978 Oct 15

3:00 Turkey TR%sT 1985 Apr 20 # Turkey Time

2:00 Turkey EE%sT 2007

2:00 EU EE%sT 2011 Mar 27 1:00u

2:00 - EET 2011 Mar 28 1:00u

2:00 EU EE%sT

Link Europe/Istanbul Asia/Istanbul # Istanbul is in both continents.

# Ukraine

#

# From Igor Karpov, who works for the Ukrainian Ministry of Justice,

# via Garrett Wollman (2003-01-27):

# BTW, I've found the official document on this matter. It's government

# regulations number 509, May 13, 1996. In my poor translation it says:

# "Time in Ukraine is set to second timezone (Kiev time). Each last Sunday

# of March at 3am the time



is changing to 4am and each last Sunday of  
# October the time at 4am is changing to 3am"

# From Alexander Krivenyshev (2011-09-20):

# On September 20, 2011 the deputies of the Verkhovna Rada agreed to  
# abolish the transfer clock to winter time.

#

# Bill number 8330 of MP from the Party of Regions Oleg Nadoshi got  
# approval from 266 deputies.

#

# Ukraine abolishes transfer back to the winter time (in Russian)

# <a href="http://news.mail.ru/politics/6861560/">

# http://news.mail.ru/politics/6861560/

# </a>

#

# The Ukrainians will no longer change the clock (in Russian)

# <a href="http://www.segodnya.ua/news/14290482.html">

# http://www.segodnya.ua/news/14290482.html

# </a>

#

# Deputies cancelled the winter time (in Russian)

# <a href="http://www.pravda.com.ua/rus/news/2011/09/20/6600616/">

# http://www.pravda.com.ua/rus/news/2011/09/20/6600616/

# </a>

#

# From Philip Pizzey (2011-10-18):

# Today my Ukrainian colleagues have informed me that the

# Ukrainian parliament have decided that

they will go to winter

# time this year after all.

#

# From Udo Schwedt (2011-10-18):

# As far as I understand, the recent change to the Ukrainian time zone

# (Europe/Kiev) to introduce permanent daylight saving time (similar

# to Russia) was reverted today:

#

# <a href="http://portal.rada.gov.ua/rada/control/en/publish/article/info\_left?art\_id=287324&cat\_id=105995">

# http://portal.rada.gov.ua/rada/control/en/publish/article/info\_left?art\_id=287324&cat\_id=105995

# </a>

#

# Also reported by Alexander Bokovoy (2011-10-18) who also noted:

# The law documents themselves are at

#

# <a href="http://w1.c1.rada.gov.ua/pls/zweb\_n/webproc4\_1?id=&pf3511=41484">

# http://w1.c1.rada.gov.ua/pls/zweb\_n/webproc4\_1?id=&pf3511=41484

# </a>

```

# Zone NAME GMTOFF RULES FORMAT [UNTIL]
# Most of Ukraine since 1970 has been like Kiev.
# "Kyiv" is the transliteration of the Ukrainian name, but
# "Kiev" is more common in English.
Zone Europe/Kiev 2:02:04 - LMT 1880
    2:02:04 - KMT 1924 May 2 # Kiev Mean Time
    2:00 - EET 1930
Jun 21
    3:00 - MSK 1941 Sep 20
    1:00 C-Eur CE%sT 1943 Nov 6
    3:00 Russia MSK/MSD 1990
    3:00 - MSK 1990 Jul 1 2:00
    2:00 - EET 1992
    2:00 E-Eur EE%sT 1995
    2:00 EU EE%sT
# Ruthenia used CET 1990/1991.
# "Uzhhorod" is the transliteration of the Ukrainian name, but
# "Uzhgorod" is more common in English.
Zone Europe/Uzhgorod 1:29:12 - LMT 1890 Oct
    1:00 - CET 1940
    1:00 C-Eur CE%sT 1944 Oct
    1:00 1:00 CEST 1944 Oct 26
    1:00 - CET 1945 Jun 29
    3:00 Russia MSK/MSD 1990
    3:00 - MSK 1990 Jul 1 2:00
    1:00 - CET 1991 Mar 31 3:00
    2:00 - EET 1992
    2:00 E-Eur EE%sT 1995
    2:00 EU EE%sT
# Zaporozh'ye and eastern Lugansk oblasts observed DST 1990/1991.
# "Zaporizhia" is the transliteration of the Ukrainian name, but
# "Zaporozh'ye" is more common in English. Use the common English
# spelling, except omit the apostrophe as it is not allowed in
# portable Posix file names.
Zone Europe/Zaporozhye 2:20:40 - LMT 1880
    2:20 - CUT 1924 May 2 #
Central Ukraine T
    2:00 - EET 1930 Jun 21
    3:00 - MSK 1941 Aug 25
    1:00 C-Eur CE%sT 1943 Oct 25
    3:00 Russia MSK/MSD 1991 Mar 31 2:00
    2:00 E-Eur EE%sT 1995
    2:00 EU EE%sT
# Central Crimea used Moscow time 1994/1997.
Zone Europe/Simferopol 2:16:24 - LMT 1880
    2:16 - SMT 1924 May 2 # Simferopol Mean T
    2:00 - EET 1930 Jun 21
    3:00 - MSK 1941 Nov

```

1:00 C-Eur CE%ST 1944 Apr 13  
 3:00 Russia MSK/MSD 1990  
 3:00 - MSK 1990 Jul 1 2:00  
 2:00 - EET 1992  
 # From Paul Eggert (2006-03-22):  
 # The \_Economist\_ (1994-05-28, p 45) reports that central Crimea switched  
 # from Kiev to Moscow time sometime after the January 1994 elections.  
 # Shanks (1999) says ``date of change uncertain'', but implies that it happened  
 # sometime between the 1994 DST switches. Shanks & Pottenger simply say  
 # 1994-09-25 03:00, but that can't be right. For now, guess it  
 # changed in May.  
 2:00 E-Eur EE%ST 1994 May  
 # From IATA SSIM (1994/1997), which also says that Kerch is still like Kiev.  
 3:00 E-Eur MSK/MSD 1996  
 Mar 31 3:00s  
 3:00 1:00 MSD 1996 Oct 27 3:00s  
 # IATA SSIM (1997-09) says Crimea switched to EET/EEST.  
 # Assume it happened in March by not changing the clocks.  
 3:00 Russia MSK/MSD 1997  
 3:00 - MSK 1997 Mar lastSun 1:00u  
 2:00 EU EE%ST  
  
 #####  
  
 # One source shows that Bulgaria, Cyprus, Finland, and Greece observe DST from  
 # the last Sunday in March to the last Sunday in September in 1986.  
 # The source shows Romania changing a day later than everybody else.  
 #  
 # According to Bernard Sieloff's source, Poland is in the MET time zone but  
 # uses the WE DST rules. The Western USSR uses EET+1 and ME DST rules.  
 # Bernard Sieloff's source claims Romania switches on the same day, but at  
 # 00:00 standard time (i.e., 01:00 DST). It also claims that Turkey  
 # switches on the same day, but switches on at 01:00 standard time  
 # and off at 00:00 standard time (i.e., 01:00 DST)  
  
 # ...  
 # Date: Wed, 28 Jan  
 87 16:56:27 -0100  
 # From: Tom Hofmann  
 # ...  
 #  
 # ...the European time rules are...standardized since 1981, when  
 # most European coun[tr]ies started DST. Before that year, only  
 # a few countries (UK, France, Italy) had DST, each according  
 # to own national rules. In 1981, however, DST started on  
 # 'Apr firstSun', and not on 'Mar lastSun' as in the following  
 # years...  
 # But also since 1981 there are some more national exceptions

# than listed in 'europe': Switzerland, for example, joined DST  
# one year later, Denmark ended DST on 'Oct 1' instead of 'Sep  
# lastSun' in 1981---I don't know how they handle now.  
#  
# Finally, DST ist always from 'Apr 1' to 'Oct 1' in the  
# Soviet Union (as far as I know).  
#  
# Tom Hofmann, Scientific Computer Center, CIBA-GEIGY AG,  
# 4002 Basle, Switzerland  
# ...  
  
# ...  
# Date: Wed, 4 Feb 87 22:35:22 +0100  
# From: Dik T. Winter  
# ...  
#  
# The information from Tom Hofmann is (as far as I know) not entirely correct.  
# After a request from chongo at amdahl I tried  
# to retrieve all information  
# about DST in Europe. I was able to find all from about 1969.  
#  
# ...standardization on DST in Europe started in about 1977 with switches on  
# first Sunday in April and last Sunday in September...  
# In 1981 UK joined Europe insofar that  
# the starting day for both shifted to last Sunday in March. And from 1982  
# the whole of Europe used DST, with switch dates April 1 and October 1 in  
# the Sov[i]et Union. In 1985 the SU reverted to standard Europe[a]n switch  
# dates...  
#  
# It should also be remembered that time-zones are not constants; e.g.  
# Portugal switched in 1976 from MET (or CET) to WET with DST...  
# Note also that though there were rules for switch dates not  
# all countries abided to these dates, and many individual deviations  
# occurred, though not since 1982 I believe. Another note: it is always  
# assumed that DST is 1 hour ahead of normal time, this need not be the  
# case; at least in the Netherlands there have been times when DST was 2 hours  
#  
# in advance of normal time.  
#  
# ...  
# dik t. winter, cwi, amsterdam, nederland  
# ...  
  
# From Bob Devine (1988-01-28):  
# ...  
# Greece: Last Sunday in April to last Sunday in September (iffy on dates).  
# Since 1978. Change at midnight.  
# ...

# Monaco: has same DST as France.

# ...

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/europe

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# <pre>

# This file is in the public domain, so clarified as of

# 2009-05-17 by Arthur David Olson.

# Allowance for leapseconds added to each timezone file.

# The International Earth Rotation Service periodically uses leap seconds

# to keep UTC to within 0.9 s of UT1

# (which measures the true angular orientation of the earth in space); see

# Terry J Quinn, The BIPM and the accurate measure of time,

# Proc IEEE 79, 7 (July 1991), 894-905.

# There were no leap seconds before 1972, because the official mechanism

# accounting for the discrepancy between atomic time and the earth's rotation

# did not exist until the early 1970s.

# The correction (+ or -) is made at the given time, so lines

# will typically look like:

# Leap YEAR MON DAY 23:59:60 + R/S

# or

# Leap YEAR MON DAY 23:59:59 - R/S

# If the leapsecond is Rolling (R) the given time is local time

# If the leapsecond is Stationary (S) the given time is UTC

# Leap YEAR MONTH DAY HH:MM:SS CORR R/S

Leap 1972 Jun 30 23:59:60 + S

Leap 1972 Dec 31 23:59:60 + S

Leap 1973 Dec 31 23:59:60 + S

Leap 1974 Dec 31 23:59:60 + S

Leap 1975 Dec 31 23:59:60 + S

Leap 1976 Dec 31 23:59:60 + S

Leap 1977 Dec 31 23:59:60 + S

Leap 1978 Dec 31 23:59:60 + S

Leap 1979 Dec 31 23:59:60 + S

Leap 1981 Jun 30 23:59:60 + S

Leap 1982 Jun 30 23:59:60 + S

Leap 1983 Jun 30 23:59:60 + S

Leap 1985 Jun 30 23:59:60 + S

Leap 1987 Dec 31 23:59:60 + S

Leap 1989 Dec 31 23:59:60 + S

Leap 1990 Dec 31 23:59:60 + S  
Leap 1992 Jun 30 23:59:60 + S  
Leap 1993 Jun 30 23:59:60 + S  
Leap 1994 Jun 30 23:59:60 + S  
Leap 1995 Dec 31 23:59:60 + S  
Leap 1997 Jun 30 23:59:60 + S  
Leap 1998 Dec 31 23:59:60 + S  
Leap 2005 Dec 31 23:59:60 + S  
Leap 2008 Dec 31 23:59:60 + S  
Leap 2012 Jun 30 23:59:60 + S

#

INTERNATIONAL EARTH ROTATION AND REFERENCE SYSTEMS SERVICE (IERS)

#

# SERVICE INTERNATIONAL DE LA ROTATION TERRESTRE ET DES SYSTEMES DE REFERENCE

#

#

# SERVICE DE LA ROTATION TERRESTRE

# OBSERVATOIRE DE PARIS

#

61, Av. de l'Observatoire 75014 PARIS (France)

# Tel. : 33 (0) 1 40 51 22 26

# FAX : 33 (0) 1 40 51 22 91

# e-mail : (E-Mail Removed)

# <http://hpiers.obspm.fr/eop-pc>

#

# Paris, 5 January 2012

#

#

# Bulletin C 43

#

# To authorities responsible

# for the measurement and

# distribution of time

#

#

# UTC TIME STEP

# on the 1st of July 2012

#

#

# A positive leap second will be introduced at the end of June 2012.

# The sequence of dates of the UTC second markers will be:

#

# 2012 June 30, 23h 59m 59s

# 2012 June 30, 23h 59m 60s

# 2012 July 1, 0h 0m 0s

#

# The difference between UTC and the International Atomic Time TAI is:

```

#
# from 2009 January 1, 0h UTC, to 2012 July 1 0h UTC : UTC-TAI = - 34s
# from 2012 July 1, 0h UTC, until further notice : UTC-TAI = - 35s
#
# Leap seconds can be introduced in UTC at the end of the months of December
# or June, depending on the evolution of UT1-TAI.
# Bulletin C is mailed every
# six months, either to announce a time step in UTC or to confirm that there
# will be no time step at the next possible date.
#
#
# Daniel GAMBIS
# Head
# Earth Orientation Center of IERS
# Observatoire de Paris, France

Found in path(s):
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-
2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/leapseconds
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# <pre>
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# Old rules, should the need arise.
# No attempt is made to handle Newfoundland, since it cannot be expressed
# using the System V "TZ" scheme (half-hour offset), or anything outside
# North America (no support for non-standard DST start/end dates), nor
# the changes in the DST rules in the US after 1976 (which occurred after
# the old rules were written).
#
# If you need the old rules, uncomment ## lines.
# Compile this *without* leap second correction for true conformance.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S
Rule SystemV min 1973 - Apr lastSun 2:00 1:00 D
Rule SystemV min 1973 - Oct lastSun 2:00 0 S
Rule SystemV 1974 only - Jan 6 2:00 1:00 D
Rule SystemV 1974 only - Nov lastSun 2:00 0 S
Rule SystemV 1975 only - Feb 23 2:00 1:00 D
Rule SystemV 1975 only - Oct lastSun 2:00 0 S
Rule SystemV 1976 max - Apr lastSun 2:00 1:00 D
Rule SystemV 1976 max - Oct lastSun 2:00 0 S

#
# Zone NAME GMTOFF RULES/SAVE FORMAT [UNTIL]
## Zone SystemV/AST4ADT -4:00 SystemV A%sT

```

```
## Zone SystemV/EST5EDT -5:00 SystemV E%sT
## Zone SystemV/CST6CDT -6:00 SystemV C%sT
## Zone SystemV/MST7MDT -7:00 SystemV M%sT
## Zone SystemV/PST8PDT -8:00 SystemV P%sT
## Zone SystemV/YST9YDT -9:00 SystemV Y%sT
## Zone SystemV/AST4 -4:00 - AST
## Zone SystemV/EST5 -5:00 - EST
## Zone SystemV/CST6 -6:00 - CST
## Zone SystemV/MST7 -7:00 - MST
## Zone SystemV/PST8 -8:00 - PST
## Zone SystemV/YST9 -9:00 - YST
## Zone SystemV/HST10 -10:00 - HST
```

Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/systemv
```

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```
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```

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*
```

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```

```
*
```

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```

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*
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* Inc., 51 Franklin St, Fifth Floor, Boston, MA 02110-1301 USA.
```

```
*
```

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* Please contact Sun Microsystems, Inc., 4150 Network Circle, Santa Clara,
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* have any questions.
```

```
*/
```

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```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/sun/tools/javazic/GenDoc.java
```



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/\*

```
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*/
```

Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/strftime.c
```

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/\*

```
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** 2006-07-17 by Arthur David Olson.
*/
```

Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/scheck.c
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/zic.c
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/ialloc.c
```

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```

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Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/newstrftime.3

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# <pre>

# This file is in the public domain, so clarified as of

# 2009-05-17 by Arthur David Olson.

# Apparent noon times below are for Riyadh; they're a bit off for other places.

# Times were computed using a formula provided by the U. S. Naval Observatory:

# eqt = -105.8 \* sin(l) + 596.2 \* sin(2 \* l) + 4.4 \* sin(3 \* l)

# -12.7 \* sin(4 \* l) - 429.0 \* cos(l) - 2.1 \* cos (2 \* l)

# + 19.3 \* cos(3 \* l);

# where l is the "mean longitude of the Sun" given by

# l = 279.642 degrees + 0.985647 \* d

# and d is the interval in days from January 0, 0 hours Universal Time

# (equaling the day of the year plus the fraction of a day from zero hours).

# The accuracy of the formula is plus or minus three seconds.

#

# Rounding to the nearest five seconds results in fewer than

# 256 different "time types"--a limit that's faced because time types are

# stored on disk as unsigned chars.

# Rule NAME FROM TO TYPE IN ON AT SAVE LETTER/S

Rule sol89 1989 only - Jan 1 12:03:35s

-0:03:35 -

Rule sol89 1989 only - Jan 2 12:04:05s -0:04:05 -

Rule sol89 1989 only - Jan 3 12:04:30s -0:04:30 -

Rule sol89 1989 only - Jan 4 12:05:00s -0:05:00 -

Rule sol89 1989 only - Jan 5 12:05:25s -0:05:25 -

Rule sol89 1989 only - Jan 6 12:05:50s -0:05:50 -

Rule sol89 1989 only - Jan 7 12:06:15s -0:06:15 -

Rule sol89 1989 only - Jan 8 12:06:45s -0:06:45 -

Rule sol89 1989 only - Jan 9 12:07:10s -0:07:10 -

Rule sol89 1989 only - Jan 10 12:07:35s -0:07:35 -

Rule sol89 1989 only - Jan 11 12:07:55s -0:07:55 -

Rule sol89 1989 only - Jan 12 12:08:20s -0:08:20 -

Rule sol89 1989 only - Jan 13 12:08:45s -0:08:45 -

Rule sol89 1989 only - Jan 14 12:09:05s -0:09:05 -

Rule sol89 1989 only - Jan 15 12:09:25s -0:09:25 -

Rule sol89 1989 only - Jan 16 12:09:45s -0:09:45 -

Rule sol89 1989 only - Jan 17 12:10:05s -0:10:05 -

Rule sol89 1989 only - Jan 18 12:10:25s -0:10:25 -

Rule sol89 1989 only - Jan 19 12:10:45s -0:10:45 -

Rule sol89 1989 only - Jan 20 12:11:05s  
-0:11:05 -  
Rule sol89 1989 only - Jan 21 12:11:20s -0:11:20 -  
Rule sol89 1989 only - Jan 22 12:11:35s -0:11:35 -  
Rule sol89 1989 only - Jan 23 12:11:55s -0:11:55 -  
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Rule sol89 1989 only - Jan 28 12:13:00s -0:13:00 -  
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Rule sol89 1989 only - Mar 12 12:09:50s -0:09:50 -  
Rule sol89 1989 only - Mar 13 12:09:30s -0:09:30 -  
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Rule sol89 1989 only - Mar 15 12:09:00s -0:09:00 -  
Rule sol89 1989 only - Mar 16 12:08:40s -0:08:40 -  
Rule sol89 1989 only - Mar 17 12:08:25s -0:08:25 -  
Rule sol89 1989 only - Mar 18 12:08:05s -0:08:05 -  
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Rule sol89 1989 only - Mar 21 12:07:15s -0:07:15 -  
Rule sol89 1989 only - Mar 22 12:06:55s -0:06:55 -  
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Rule sol89 1989 only - Mar 24 12:06:20s -0:06:20 -  
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Rule sol89 1989 only - Mar 26 12:05:40s -0:05:40 -  
Rule sol89 1989 only - Mar 27 12:05:25s -0:05:25 -  
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Rule sol89 1989 only - Mar 29 12:04:50s -0:04:50 -  
Rule sol89 1989 only - Mar 30 12:04:30s -0:04:30 -  
Rule sol89 1989 only - Mar 31 12:04:10s -0:04:10 -  
Rule sol89 1989 only - Apr 1 12:03:55s -0:03:55 -  
Rule sol89 1989 only - Apr 2 12:03:35s -0:03:35 -  
Rule sol89 1989 only - Apr 3 12:03:20s -0:03:20 -  
Rule sol89 1989 only - Apr 4 12:03:00s -0:03:00 -  
Rule sol89 1989 only - Apr 5 12:02:45s -0:02:45 -  
Rule sol89 1989 only - Apr 6 12:02:25s -0:02:25 -  
Rule sol89 1989 only - Apr 7 12:02:10s -0:02:10 -  
Rule sol89 1989 only - Apr 8 12:01:50s -0:01:50 -  
Rule sol89 1989 only - Apr 9 12:01:35s

-0:01:35 -

Rule sol89 1989 only - Apr 10 12:01:20s -0:01:20 -  
Rule sol89 1989 only - Apr 11 12:01:05s -0:01:05 -  
Rule sol89 1989 only - Apr 12 12:00:50s -0:00:50 -  
Rule sol89 1989 only - Apr 13 12:00:35s -0:00:35 -  
Rule sol89 1989 only - Apr 14 12:00:20s -0:00:20 -  
Rule sol89 1989 only - Apr 15 12:00:05s -0:00:05 -  
Rule sol89 1989 only - Apr 16 11:59:50s 0:00:10 -  
Rule sol89 1989 only - Apr 17 11:59:35s 0:00:25 -  
Rule sol89 1989 only - Apr 18 11:59:20s 0:00:40 -  
Rule sol89 1989 only - Apr 19 11:59:10s 0:00:50 -  
Rule sol89 1989 only - Apr 20 11:58:55s 0:01:05 -

Rule sol89 1989 only - Apr 21 11:58:45s 0:01:15 -  
Rule sol89 1989 only - Apr 22 11:58:30s 0:01:30 -  
Rule sol89 1989 only - Apr 23 11:58:20s 0:01:40 -  
Rule sol89 1989 only - Apr 24 11:58:10s 0:01:50 -  
Rule sol89 1989 only - Apr 25 11:58:00s 0:02:00 -  
Rule sol89 1989 only - Apr 26 11:57:50s 0:02:10 -  
Rule sol89 1989 only - Apr 27 11:57:40s 0:02:20 -  
Rule sol89 1989 only - Apr 28 11:57:30s 0:02:30 -  
Rule sol89 1989 only - Apr 29 11:57:20s  
0:02:40 -  
Rule sol89 1989 only - Apr 30 11:57:15s 0:02:45 -  
Rule sol89 1989 only - May 1 11:57:05s 0:02:55 -  
Rule sol89 1989 only - May 2 11:57:00s 0:03:00 -  
Rule sol89 1989 only - May 3 11:56:50s 0:03:10 -  
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Rule sol89 1989 only - May 9 11:56:25s 0:03:35 -  
Rule sol89 1989 only - May 10 11:56:25s 0:03:35 -  
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# Riyadh is at about 46 degrees 46 minutes East: 3 hrs, 7 mins, 4 secs  
# Before and after 1989, we'll operate on local mean solar time.

# Zone NAME GMT/OFF RULES/SAVE FORMAT [UNTIL]

Zone Asia/Riyadh89 3:07:04 - zzz 1989

3:07:04 sol89 zzz 1990

3:07:04 - zzz

# For backward compatibility...

Link Asia/Riyadh89 Mideast/Riyadh89

Found in path(s):

\* /opt/cola/permits/2005422285\_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzdata2013c.tar.gz-cosi-expand-archive-aNaheQuq/solar89

No license file was found, but licenses were detected in source scan.

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\*\* This file is in the public domain, so clarified as of

\*\* 2009-05-17 by Arthur David Olson.

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Found in path(s):

```
* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/tzcode2013c.tar.gz-cosi-expand-archive-f06d3C3G/zdump.c
```

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```
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* have any questions.
*/
```

Found in path(s):

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* /opt/cola/permits/2005422285_1715245619.3924356/0/tzdata-2013c-2.el6-1.src.rpm-cosi-expand-archive-2Ezs8HBR/javazic.tar.gz-cosi-expand-archive-radlwxCG/sun/util/calendar/CalendarDate.java
```

## 1.170 python 2.6.6-37.el6\_4

### 1.170.1 Available under license :

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#### A. HISTORY OF THE SOFTWARE

=====

Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see <http://www.cwi.nl>) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see <http://www.cnri.reston.va.us>) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see <http://www.zope.com>). In 2001, the Python Software Foundation (PSF, see <http://www.python.org/psf/>) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see <http://www.opensource.org> for the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes

the various releases.

Release	Derived from	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				
2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
2.6.4	2.6.3	2009	PSF	yes
2.6.5	2.6.4	2010	PSF	yes

Footnotes:

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(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

Thanks to the many outside volunteers who have worked under Guido's direction to make these releases possible.

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## 1.171 polycoreutils 2.0.83-19.30.el6

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```

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```
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```

```
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# 1.174 tpm-tools 1.3.4-2.el6

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# 1.175 pykickstart 1.74.10

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# 1.179 e2fsprogs 1.41.12-14.el6\_4.2

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Index: tdbsa/tdb.c

```
=====
--- tdbsa.orig/tdb.c
+++ tdbsa/tdb.c
@@ -4,11 +4,11 @@ Rev: 23371
Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)
*/
/*
- Unix SMB/CIFS implementation.
+ trivial database library - standalone version

- trivial database library - private includes
-
- Copyright (C) Andrew Tridgell      2005
+ Copyright (C) Andrew Tridgell      1999-2005
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```

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Gadi Oxman, August 1995

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This is the Debian GNU/Linux prepackaged version of the EXT2 file system utilities (e2fsck, mke2fs, etc.). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from <http://sourceforge.net/projects/e2fsprogs>

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Theodore Ts'o  
23-June-2007

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This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:  
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This is the Debian GNU/Linux prepackaged version of the EXT2 file system utilities (e2fsck, mke2fs, etc.). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from <http://sourceforge.net/projects/e2fsprogs>

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Fri Dec 14 22:24:35 EST 2007

It is part of the main e2fsprogs distribution, which can be found at:

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THE BASIC LIBRARY FUNCTIONS

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```
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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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## 1.184 bash 4.1.2-15.el6\_4

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```
From friedman@cli.com Thu May 25 12:19:06 1995
Flags: 10
Return-Path: friedman@cli.com
Received: from po.cwru.edu (root@po.CWRU.Edu [129.22.4.2]) by odin.INS.CWRU.Edu with ESMTTP
(8.6.10+cwru/CWRU-2.1-ins)
id MAA08685; Thu, 25 May 1995 12:19:05 -0400 (from friedman@cli.com for <chet@odin.INS.CWRU.Edu>)
Received: from cli.com (cli.com [192.31.85.1]) by po.cwru.edu with SMTP (8.6.10+cwru/CWRU-2.3)
```

id MAA11299; Thu, 25 May 1995 12:19:00 -0400 (from friedman@cli.com for <chet@po.cwru.edu>)  
Received: from tepui.cli.com by cli.com (4.1/SMI-4.1)  
id AA27213; Thu, 25 May 95 11:18:25 CDT  
Received: by tepui.cli.com (4.1) id AA16031; Thu, 25 May 95 11:18:23 CDT  
Message-Id: <9505251618.AA16031@tepui.cli.com>  
From: friedman@gnu.ai.mit.edu (Noah Friedman)  
To: chet@po.cwru.edu  
Subject: Bash scripts  
Reply-To: friedman@gnu.ai.mit.edu  
In-Reply-To: <chet@odin.ins.cwru.edu> Thu, 25 May 1995 11:19:59 -0400  
References: <9505251519.AA06424.SM@odin.INS.CWRU.Edu>  
Date: Thu, 25 May 95 11:18:21 CST

>Hi. I snagged  
some of your bash functions from your home directory on  
>the FSF machines (naughty, I know), and I was wondering if you'd let  
>me distribute them with bash-2.0. Thanks.

Sure. I think there's a later copy in  
~ftp/friedman/shell-inits/init-4.89.tar.gz. There are also some elisp and  
es frobs in that file.

It should serve as a pretty good example of how to get carried away. :-)

From spcedt@armory.com Wed May 10 10:21:11 1995

Flags: 10

Return-Path: spcedt@armory.com

Received: from po.cwru.edu (root@po.CWRU.Edu [129.22.4.2]) by odin.INS.CWRU.Edu with ESMTP  
(8.6.10+cwru/CWRU-2.1-ins)

id KAA22876; Wed, 10 May 1995 10:21:10 -0400 (from spcedt@armory.com for <chet@odin.INS.CWRU.Edu>)

Received: from deepthought.armory.com (mmdf@deepthought.armory.com [192.122.209.42]) by po.cwru.edu with  
SMTP (8.6.10+cwru/CWRU-2.3)

id BAA16354; Wed, 10 May 1995 01:33:22 -0400 (from spcedt@armory.com for <chet@po.cwru.edu>)

From: John DuBois <spcedt@armory.com>

Date: Tue, 9 May 1995 22:33:12 -0700

In-Reply-To: Chet Ramey <chet@odin.ins.cwru.edu>

"ksh scripts" (May 9, 1:36pm)

X-Www: <http://www.armory.com/~spcedt/>

X-Mailer: Mail User's Shell (7.2.5 10/14/92)

To: chet@po.cwru.edu

Subject: Re: ksh scripts

Message-ID: <9505092233.aa13001@deepthought.armory.com>

Sure. The canonical versions are available on ftp.armory.com; you might  
want to pick up the latest versions  
before modifying them.

John

On May 9, 1:36pm, Chet Ramey wrote:

```
} Subject: ksh scripts
} From odin.ins.cwru.edu!chet Tue May 9 10:39:51 1995
} Received: from odin.INS.CWRU.Edu by deepthought.armory.com id aa22336;
} 9 May 95 10:39 PDT
} Received: (chet@localhost) by odin.INS.CWRU.Edu (8.6.10+cwru/CWRU-2.1-ins)
} id NAA20487; Tue, 9 May 1995 13:39:24 -0400 (from chet)
} Date: Tue, 9 May 1995 13:36:54 -0400
} From: Chet Ramey <chet@odin.ins.cwru.edu>
} To: john@armory.com
} Subject: ksh scripts
} Cc: chet@odin.ins.cwru.edu
} Reply-To: chet@po.cwru.edu
} Message-ID: <9505091736.AA20411.SM@odin.INS.CWRU.Edu>
} Read-Receipt-To: chet@po.CWRU.Edu
} MIME-Version: 1.0
} Content-Type: text/plain; charset=us-ascii
} Status: OR
}
} Hi. I'm the maintainer of bash (the GNU `Bourne Again shell') for
} the FSF.
}
} I picked up a tar file of ksh scripts you wrote from an anon FTP site
} a while back. I'd like your permission to include modified versions
} of some of them in
} the next major bash distribution (with proper credit
} given, of course). Is it OK if I do that?
}
} Chet Ramey
}
} --
} ``The lyf so short, the craft so long to lerne." - Chaucer
}
} Chet Ramey, Case Western Reserve University Internet: chet@po.CWRU.Edu
}-- End of excerpt from Chet Ramey
```

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From: mikel@ora.com (Michael Loukides)

Message-Id: <9508011257.AA00672@los.ora.com>

Subject: Re: Ksh debugger from Rosenblatt's book [for bash]

To: Chet Ramey <chet@odin.INS.CWRU.Edu>

Cc: cmarie@ora.com, cam@iinet.com.au, brosenblatt@tm.com

In-Reply-To: Chet Ramey <chet@odin.INS.CWRU.Edu>, Mon, 31 Jul 1995 16:22:48 -0400

I've modified a (modified) version of Bill Rosenblatt's ksh debugger to work with bash-2.0. Does ORA have any problem with me distributing

it with bash-2.0?

That's great!

Go ahead and circulate it; in fact, we should probably grab it and stick it in our ftp archive, and put a reference to it in the book.



(Too late to actually discuss the thing, at least for this edition).

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# 1.185 nss-softokn 3.14.3-3.el6\_4

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\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/intel/intel\_bufmgr\_gem.c

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*  
*/
```

Found in path(s):

```
* /opt/cola/permits/2005422175_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcuijM7/libdrm-2.4.39/intel/intel_bufmgr_fake.c
```

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\*  
\* Authors:  
\* Gareth Hughes <gareth@valinux.com>  
\* Frank C. Earl <fearl@airmail.net>  
\* Leif Delgass <ldelgass@retinalburn.net>  
\*/

Found in path(s):

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/include/drm/mach64\_drm.h  
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From 77e3ab9962c13e75c121ba3686a07e441ebf9191 Mon Sep 17 00:00:00 2001

From: Ben Skeggs <bskeggs@redhat.com>

Date: Mon, 2 Jul 2012 10:50:45 +1000

Subject: [PATCH] nouveau: forward-port old nouveau interface to libdrm 2.4.37

For compatibility with current F17, the old interface's pkgconfig data is the same as it was before. If we ever want to update the DDX or Mesa to use the newer interface instead, libdrm\_nouveau2 pkgconfig will be needed instead.

v2: renamed libdrm\_nouveau\_2 to libdrm\_nouveau2 as suggested by airlid

---

```
Makefile.am          | 2 +-
configure.ac         | 4 +-
nouveau-1/Makefile.am      | 43 +++++
nouveau-1/libdrm_nouveau.pc.in | 11 +
nouveau-1/nouveau_bo.c    | 549 +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
nouveau-1/nouveau_bo.h    | 104 ++++++++
nouveau-1/nouveau_channel.c | 142 ++++++++
nouveau-1/nouveau_channel.h | 57 ++++++
nouveau-1/nouveau_device.c
  | 198 +++++++++++++++++++++++++++++++++
nouveau-1/nouveau_device.h | 33 +++
nouveau-1/nouveau_drmif.h  | 58 +++++
nouveau-1/nouveau_grobject.c | 148 ++++++++
nouveau-1/nouveau_grobject.h | 48 +++++
nouveau-1/nouveau_notifier.c | 148 ++++++++
nouveau-1/nouveau_notifier.h | 63 +++++
nouveau-1/nouveau_private.h | 136 ++++++++
nouveau-1/nouveau_pushbuf.c | 344 +++++++++++++++++++++++++++++++++++++
nouveau-1/nouveau_pushbuf.h | 162 ++++++++
nouveau-1/nouveau_reloc.c  | 154 ++++++++
nouveau-1/nouveau_reloc.h  | 32 +++
nouveau-1/nouveau_resource.c | 124 ++++++++
nouveau-1/nouveau_resource.h | 51 +++++
nouveau-1/nv04_pushbuf.h    | 66 +++++
nouveau-1/nvc0_pushbuf.h    | 92 ++++++
nouveau/Makefile.am        | 20 +-
nouveau/libdrm_nouveau.pc.in | 11 -
nouveau/libdrm_nouveau2.pc.in | 11 +
27 files changed, 2788 insertions(+), 23 deletions(-)
create mode 100644 nouveau-1/Makefile.am
create
  mode 100644 nouveau-1/libdrm_nouveau.pc.in
create mode 100644 nouveau-1/nouveau_bo.c
create mode 100644 nouveau-1/nouveau_bo.h
create mode 100644 nouveau-1/nouveau_channel.c
create mode 100644 nouveau-1/nouveau_channel.h
create mode 100644 nouveau-1/nouveau_device.c
create mode 100644 nouveau-1/nouveau_device.h
create mode 100644 nouveau-1/nouveau_drmif.h
create mode 100644 nouveau-1/nouveau_grobject.c
create mode 100644 nouveau-1/nouveau_grobject.h
create mode 100644 nouveau-1/nouveau_notifier.c
create mode 100644 nouveau-1/nouveau_notifier.h
create mode 100644 nouveau-1/nouveau_private.h
create mode 100644 nouveau-1/nouveau_pushbuf.c
```

```
create mode 100644 nouveau-1/nouveau_pushbuf.h
create mode 100644 nouveau-1/nouveau_reloc.c
create mode 100644 nouveau-1/nouveau_reloc.h
create mode 100644 nouveau-1/nouveau_resource.c
create mode 100644 nouveau-1/nouveau_resource.h
create mode 100644 nouveau-1/nv04_pushbuf.h
create mode 100644 nouveau-1/nvc0_pushbuf.h
delete mode 100644
nouveau/libdrm_nouveau.pc.in
create mode 100644 nouveau/libdrm_nouveau2.pc.in
```

```
diff --git a/Makefile.am b/Makefile.am
index 256a8cc..045add1 100644
--- a/Makefile.am
+++ b/Makefile.am
@@ -34,7 +34,7 @@ INTEL_SUBDIR = intel
endif
```

```
if HAVE_NOUVEAU
-NOUVEAU_SUBDIR = nouveau
+NOUVEAU_SUBDIR = nouveau-1 nouveau
endif
```

```
if HAVE_RADEON
diff --git a/configure.ac b/configure.ac
index a1c8c69..86dd25e 100644
--- a/configure.ac
+++ b/configure.ac
@@ -319,8 +319,10 @@ AC_CONFIG_FILES([
intel/libdrm_intel.pc
radeon/Makefile
radeon/libdrm_radeon.pc
+ nouveau-1/Makefile
+ nouveau-1/libdrm_nouveau.pc
nouveau/Makefile
- nouveau/libdrm_nouveau.pc
+ nouveau/libdrm_nouveau2.pc
omap/Makefile
omap/libdrm_omap.pc
exynos/Makefile
diff --git a/nouveau-1/Makefile.am b/nouveau-1/Makefile.am
new file mode 100644
index 0000000..8b89916
--- /dev/null
+++ b/nouveau-1/Makefile.am
@@ -0,0 +1,43 @@
+AM_CFLAGS = \
+ $(WARN_CFLAGS) \
```

```

+ -I$(top_srcdir) \
+ -I$(top_srcdir)/nouveau \
+ $(PTHREADSTUBS_CFLAGS)
\
+ -I$(top_srcdir)/include/drm
+
+libdrm_nouveau_la_LTLIBRARIES = libdrm_nouveau.la
+libdrm_nouveau_ladir = $(libdir)
+libdrm_nouveau_la_LDFLAGS = -version-number 1:0:0 -no-undefined
+libdrm_nouveau_la_LIBADD = ../libdrm.la @PTHREADSTUBS_LIBS@
+
+libdrm_nouveau_la_SOURCES = \
+ nouveau_device.c \
+ nouveau_channel.c \
+ nouveau_pushbuf.c \
+ nouveau_grobject.c \
+ nouveau_notifier.c \
+ nouveau_bo.c \
+ nouveau_resource.c \
+ nouveau_private.h \
+ nouveau_reloc.c
+
+libdrm_nouveaucommonincludedir = ${includedir}/nouveau
+libdrm_nouveaucommoninclude_HEADERS = \
+ nouveau_device.h \
+ nouveau_channel.h \
+ nouveau_grobject.h \
+ nouveau_notifier.h \
+ nouveau_pushbuf.h \
+ nv04_pushbuf.h \
+ nvc0_pushbuf.h \
+ nouveau_bo.h \
+ nouveau_resource.h \
+ nouveau_reloc.h
+
+
+libdrm_nouveauincludedir = ${includedir}/libdrm
+libdrm_nouveauinclude_HEADERS = \
+ nouveau_drmif.h
+
+pkgconfigdir = @pkgconfigdir@
+pkgconfig_DATA
= libdrm_nouveau.pc
diff --git a/nouveau-1/libdrm_nouveau.pc.in b/nouveau-1/libdrm_nouveau.pc.in
new file mode 100644
index 0000000..c78a28a
--- /dev/null
+++ b/nouveau-1/libdrm_nouveau.pc.in

```

```

@@ -0,0 +1,11 @@
+prefix=@prefix@
+exec_prefix=@exec_prefix@
+libdir=@libdir@
+includedir=@includedir@
+
+Name: libdrm_nouveau
+Description: Userspace interface to nouveau kernel DRM services
+Version: 0.6
+Libs: -L${libdir} -ldrm_nouveau
+Cflags: -I${includedir} -I${includedir}/libdrm -I${includedir}/nouveau
+Requires.private: libdrm
diff --git a/nouveau-1/nouveau_bo.c b/nouveau-1/nouveau_bo.c
new file mode 100644
index 0000000..d6bb22d
--- /dev/null
+++ b/nouveau-1/nouveau_bo.c
@@ -0,0 +1,549 @@
+/*
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+ */
+
+#ifdef HAVE_CONFIG_H
+#include <config.h>
+#endif
+#include <stdint.h>
+#include <stdlib.h>
+#include <errno.h>
+#include <assert.h>

```

```

+
+#include <sys/mman.h>
+
+#include
+"nouveau_private.h"
+
+int
+nouveau_bo_init(struct nouveau_device *dev)
+{
+ return 0;
+}
+
+void
+nouveau_bo_takedown(struct nouveau_device *dev)
+{
+}
+
+static int
+nouveau_bo_info(struct nouveau_bo_priv *nvbo, struct drm_nouveau_gem_info *arg)
+{
+ nvbo->handle = nvbo->base.handle = arg->handle;
+ nvbo->domain = arg->domain;
+ nvbo->size = arg->size;
+ nvbo->offset = arg->offset;
+ nvbo->map_handle = arg->map_handle;
+ nvbo->base.tile_mode = arg->tile_mode;
+ /* XXX - flag inverted for backwards compatibility */
+ nvbo->base.tile_flags = arg->tile_flags ^ NOUVEAU_GEM_TILE_NONCONTIG;
+ return 0;
+}
+
+static int
+nouveau_bo_allocated(struct nouveau_bo_priv *nvbo)
+{
+ if (nvbo->systemem || nvbo->handle)
+ return 1;
+ return 0;
+}
+
+static int
+nouveau_bo_ualloc(struct nouveau_bo_priv *nvbo)
+{
+ if (nvbo->user || nvbo->systemem) {
+ assert(nvbo->systemem);
+ return 0;
+ }
+
+ nvbo->systemem = malloc(nvbo->size);

```

```

+ if (!nvbo->systemem)
+ return -ENOMEM;
+
+ return 0;
+}
+
+static void
+nouveau_bo_ufree(struct
nouveau_bo_priv *nvbo)
+{
+ if (nvbo->systemem) {
+ if (!nvbo->user)
+ free(nvbo->systemem);
+ nvbo->systemem = NULL;
+ }
+}
+
+static void
+nouveau_bo_kfree(struct nouveau_bo_priv *nvbo)
+{
+ struct nouveau_device_priv *nvdev = nouveau_device(nvbo->base.device);
+ struct drm_gem_close req;
+
+ if (!nvbo->handle)
+ return;
+
+ if (nvbo->map) {
+ munmap(nvbo->map, nvbo->size);
+ nvbo->map = NULL;
+ }
+
+ req.handle = nvbo->handle;
+ nvbo->handle = 0;
+ drmIoctl(nvdev->fd, DRM_IOCTL_GEM_CLOSE, &req);
+}
+
+static int
+nouveau_bo_kalloc(struct nouveau_bo_priv *nvbo, struct nouveau_channel *chan)
+{
+ struct nouveau_device_priv *nvdev = nouveau_device(nvbo->base.device);
+ struct drm_nouveau_gem_new req;
+ struct drm_nouveau_gem_info *info = &req.info;
+ int ret;
+
+ if (nvbo->handle)
+ return 0;
+
+ req.channel_hint = chan ? chan->id : 0;

```



```

+ req.align = nvbo->align;
+
+
+ info->size = nvbo->size;
+ info->domain = 0;
+
+ if (nvbo->flags & NOUVEAU_BO_VRAM)
+ info->domain
|= NOUVEAU_GEM_DOMAIN_VRAM;
+ if (nvbo->flags & NOUVEAU_BO_GART)
+ info->domain |= NOUVEAU_GEM_DOMAIN_GART;
+ if (!info->domain) {
+ info->domain |= (NOUVEAU_GEM_DOMAIN_VRAM |
+ NOUVEAU_GEM_DOMAIN_GART);
+ }
+
+ if (nvbo->flags & NOUVEAU_BO_MAP)
+ info->domain |= NOUVEAU_GEM_DOMAIN_MAPPABLE;
+
+ info->tile_mode = nvbo->base.tile_mode;
+ info->tile_flags = nvbo->base.tile_flags;
+ /* XXX - flag inverted for backwards compatibility */
+ info->tile_flags ^= NOUVEAU_GEM_TILE_NONCONTIG;
+ if (!nvdev->has_bo_usage)
+ info->tile_flags &= NOUVEAU_GEM_TILE_LAYOUT_MASK;
+
+ ret = drmCommandWriteRead(nvdev->fd, DRM_NOUVEAU_GEM_NEW,
+ &req, sizeof(req));
+ if (ret)
+ return ret;
+
+ nouveau_bo_info(nvbo, &req.info);
+ return 0;
+}
+
+static int
+nouveau_bo_kmap(struct nouveau_bo_priv *nvbo)
+{
+ struct nouveau_device_priv *nvdev = nouveau_device(nvbo->base.device);
+
+ if (nvbo->map)
+ return 0;
+
+ if (!nvbo->map_handle)
+ return -EINVAL;
+
+ nvbo->map = mmap(0, nvbo->size,

```

```

PROT_READ | PROT_WRITE,
+ MAP_SHARED, nvdev->fd, nvbo->map_handle);
+ if (nvbo->map == MAP_FAILED) {
+ nvbo->map = NULL;
+ return -errno;
+ }
+
+ return 0;
+}
+
+int
+nouveau_bo_new_tile(struct nouveau_device *dev, uint32_t flags, int align,
+ int size, uint32_t tile_mode, uint32_t tile_flags,
+ struct nouveau_bo **bo)
+{
+ struct nouveau_bo_priv *nvbo;
+ int ret;
+
+ if (!dev || !bo || *bo)
+ return -EINVAL;
+
+ nvbo = calloc(1, sizeof(struct nouveau_bo_priv));
+ if (!nvbo)
+ return -ENOMEM;
+ nvbo->base.device = dev;
+ nvbo->base.size = size;
+ nvbo->base.tile_mode = tile_mode;
+ nvbo->base.tile_flags = tile_flags;
+
+ nvbo->refcount = 1;
+ nvbo->flags = flags;
+ nvbo->size = size;
+ nvbo->align = align;
+
+ if (flags & (NOUVEAU_BO_VRAM | NOUVEAU_BO_GART)) {
+ ret = nouveau_bo_kalloc(nvbo, NULL);
+ if (ret) {
+ nouveau_bo_ref(NULL, (void *)&nvbo);
+ return ret;
+ }
+ }
+
+ *bo = &nvbo->base;
+ return 0;
+}
+
+int
+nouveau_bo_new(struct nouveau_device *dev,

```

```

uint32_t flags, int align,
+   int size, struct nouveau_bo **bo)
+{
+ return nouveau_bo_new_tile(dev, flags, align, size, 0, 0, bo);
+}
+
+int
+nouveau_bo_user(struct nouveau_device *dev, void *ptr, int size,
+ struct nouveau_bo **bo)
+{
+ struct nouveau_bo_priv *nvbo;
+ int ret;
+
+
+ ret = nouveau_bo_new(dev, NOUVEAU_BO_MAP, 0, size, bo);
+ if (ret)
+ return ret;
+ nvbo = nouveau_bo(*bo);
+
+ nvbo->systemem = ptr;
+ nvbo->user = 1;
+ return 0;
+}
+
+int
+nouveau_bo_wrap(struct nouveau_device *dev, uint32_t handle,
+ struct nouveau_bo **bo)
+{
+ struct nouveau_device_priv *nvdev = nouveau_device(dev);
+ struct drm_nouveau_gem_info req;
+ struct nouveau_bo_priv *nvbo;
+ int ret;
+
+
+ ret = nouveau_bo_new(dev, 0, 0, 0, bo);
+ if (ret)
+ return ret;
+ nvbo = nouveau_bo(*bo);
+
+ req.handle = handle;
+ ret = drmCommandWriteRead(nvdev->fd, DRM_NOUVEAU_GEM_INFO,
+ &req, sizeof(req));
+ if (ret) {
+ nouveau_bo_ref(NULL, bo);
+ return ret;
+ }
+
+
+ nouveau_bo_info(nvbo, &req);
+ nvbo->base.size

```

```

= nvbo->size;
+ return 0;
+ }
+
+int
+nouveau_bo_handle_get(struct nouveau_bo *bo, uint32_t *handle)
+{
+ struct nouveau_device_priv *nvdev = nouveau_device(bo->device);
+ struct nouveau_bo_priv *nvbo = nouveau_bo(bo);
+ int ret;
+
+ if (!bo || !handle)
+ return -EINVAL;
+
+ if (!nvbo->global_handle) {
+ struct drm_gem_flink req;
+
+ ret = nouveau_bo_kalloc(nvbo, NULL);
+ if (ret)
+ return ret;
+
+ req.handle = nvbo->handle;
+ ret = drmIoctl(nvdev->fd, DRM_IOCTL_GEM_FLINK, &req);
+ if (ret) {
+ nouveau_bo_kfree(nvbo);
+ return ret;
+ }
+
+ nvbo->global_handle = req.name;
+ }
+
+ *handle = nvbo->global_handle;
+ return 0;
+ }
+
+int
+nouveau_bo_handle_ref(struct nouveau_device *dev, uint32_t handle,
+ struct nouveau_bo **bo)
+{
+ struct nouveau_device_priv *nvdev = nouveau_device(dev);
+ struct nouveau_bo_priv *nvbo;
+ struct drm_gem_open req;
+ int ret;
+
+ req.name = handle;
+ ret = drmIoctl(nvdev->fd, DRM_IOCTL_GEM_OPEN, &req);
+ if (ret) {
+ nouveau_bo_ref(NULL,

```

```

bo);
+ return ret;
+ }
+
+ ret = nouveau_bo_wrap(dev, req.handle, bo);
+ if (ret) {
+ nouveau_bo_ref(NULL, bo);
+ return ret;
+ }
+
+ nvbo = nouveau_bo(*bo);
+ nvbo->base.handle = nvbo->handle;
+ return 0;
+}
+
+static void
+nouveau_bo_del(struct nouveau_bo **bo)
+{
+ struct nouveau_bo_priv *nvbo;
+
+ if (!bo || !*bo)
+ return;
+ nvbo = nouveau_bo(*bo);
+ *bo = NULL;
+
+ if (--nvbo->refcount)
+ return;
+
+ if (nvbo->pending) {
+ nvbo->pending = NULL;
+ nouveau_pushbuf_flush(nvbo->pending_channel, 0);
+ }
+
+ nouveau_bo_ufree(nvbo);
+ nouveau_bo_kfree(nvbo);
+ free(nvbo);
+}
+
+int
+nouveau_bo_ref(struct nouveau_bo *ref, struct nouveau_bo **pbo)
+{
+ if (!pbo)
+ return -EINVAL;
+
+ if (ref)
+ nouveau_bo(ref)->refcount++;
+
+ if (*pbo)

```

```

+ nouveau_bo_del(pbo);
+
+ *pbo = ref;
+ return 0;
+}
+
+static int
+nouveau_bo_wait(struct nouveau_bo *bo, int cpu_write, int no_wait, int no_block)
+{
+ struct nouveau_device_priv *nvdev = nouveau_device(bo->device);
+ struct
+ nouveau_bo_priv *nvbo = nouveau_bo(bo);
+ struct drm_nouveau_gem_cpu_prep req;
+ int ret;
+
+ if (!nvbo->global_handle && !nvbo->write_marker && !cpu_write)
+ return 0;
+
+ if (nvbo->pending &&
+     (nvbo->pending->write_domains || cpu_write)) {
+ nvbo->pending = NULL;
+ nouveau_pushbuf_flush(nvbo->pending_channel, 0);
+ }
+
+ req.handle = nvbo->handle;
+ req.flags = 0;
+ if (cpu_write)
+ req.flags |= NOUVEAU_GEM_CPU_PREP_WRITE;
+ if (no_wait)
+ req.flags |= NOUVEAU_GEM_CPU_PREP_NOWAIT;
+ if (no_block)
+ req.flags |= NOUVEAU_GEM_CPU_PREP_NOBLOCK;
+
+ do {
+ ret = drmCommandWrite(nvdev->fd, DRM_NOUVEAU_GEM_CPU_PREP,
+     &req, sizeof(req));
+ } while (ret == -EAGAIN);
+ if (ret)
+ return ret;
+
+ if (ret == 0)
+ nvbo->write_marker = 0;
+ return 0;
+}
+
+int
+nouveau_bo_map_range(struct nouveau_bo *bo, uint32_t delta, uint32_t size,
+ uint32_t flags)

```

```

+{
+ struct nouveau_bo_priv *nvbo = nouveau_bo(bo);
+ int ret;
+
+ if (!nvbo || bo->map)
+ return -EINVAL;
+
+ if (!nouveau_bo_allocated(nvbo))
+ {
+ if (nvbo->flags & (NOUVEAU_BO_VRAM | NOUVEAU_BO_GART)) {
+ ret = nouveau_bo_kalloc(nvbo, NULL);
+ if (ret)
+ return ret;
+ }
+
+ if (!nouveau_bo_allocated(nvbo)) {
+ ret = nouveau_bo_ualloc(nvbo);
+ if (ret)
+ return ret;
+ }
+ }
+
+ if (nvbo->systemem) {
+ bo->map = (char *)nvbo->systemem + delta;
+ } else {
+ ret = nouveau_bo_kmap(nvbo);
+ if (ret)
+ return ret;
+
+ if (!(flags & NOUVEAU_BO_NOSYNC)) {
+ ret = nouveau_bo_wait(bo, (flags & NOUVEAU_BO_WR),
+ (flags & NOUVEAU_BO_NOWAIT), 0);
+ if (ret)
+ return ret;
+
+ nvbo->map_refcnt++;
+ }
+
+ bo->map = (char *)nvbo->map + delta;
+ }
+
+ return 0;
+}
+
+void
+nouveau_bo_map_flush(struct nouveau_bo *bo, uint32_t delta, uint32_t size)
+{
+}

```

```

+
+int
+nouveau_bo_map(struct nouveau_bo *bo, uint32_t flags)
+{
+ return nouveau_bo_map_range(bo, 0, bo->size, flags);
+}
+
+void
+nouveau_bo_unmap(struct nouveau_bo *bo)
+{
+ struct nouveau_bo_priv *nvbo = nouveau_bo(bo);
+
+ if
+ (bo->map && !nvbo->systemem && nvbo->map_refcnt) {
+ struct nouveau_device_priv *nvdev = nouveau_device(bo->device);
+ struct drm_nouveau_gem_cpu_fini req;
+
+ req.handle = nvbo->handle;
+ drmCommandWrite(nvdev->fd, DRM_NOUVEAU_GEM_CPU_FINI,
+ &req, sizeof(req));
+ nvbo->map_refcnt--;
+ }
+
+ bo->map = NULL;
+}
+
+int
+nouveau_bo_busy(struct nouveau_bo *bo, uint32_t access)
+{
+ return nouveau_bo_wait(bo, (access & NOUVEAU_BO_WR), 1, 1);
+}
+
+uint32_t
+nouveau_bo_pending(struct nouveau_bo *bo)
+{
+ struct nouveau_bo_priv *nvbo = nouveau_bo(bo);
+ uint32_t flags;
+
+ if (!nvbo->pending)
+ return 0;
+
+ flags = 0;
+ if (nvbo->pending->read_domains)
+ flags |= NOUVEAU_BO_RD;
+ if (nvbo->pending->write_domains)
+ flags |= NOUVEAU_BO_WR;
+
+ return flags;

```



```

+}
+
+struct drm_nouveau_gem_pushbuf_bo *
+nouveau_bo_emit_buffer(struct nouveau_channel *chan, struct nouveau_bo *bo)
+{
+ struct nouveau_pushbuf_priv *nvpb = &nouveau_channel(chan)->pb;
+ struct nouveau_bo_priv *nvbo = nouveau_bo(bo);
+ struct
+   drm_nouveau_gem_pushbuf_bo *pbbo;
+ struct nouveau_bo *ref = NULL;
+ int ret;
+
+
+ if (nvbo->pending)
+   return nvbo->pending;
+
+
+ if (!nvbo->handle) {
+   ret = nouveau_bo_kalloc(nvbo, chan);
+   if (ret)
+     return NULL;
+
+
+   if (nvbo->systemem) {
+     void *systemem_tmp = nvbo->systemem;
+
+
+     nvbo->systemem = NULL;
+     ret = nouveau_bo_map(bo, NOUVEAU_BO_WR);
+     if (ret)
+       return NULL;
+     nvbo->systemem = systemem_tmp;
+
+
+     memcpy(bo->map, nvbo->systemem, nvbo->base.size);
+     nouveau_bo_ufree(nvbo);
+     nouveau_bo_unmap(bo);
+   }
+ }
+
+
+ if (nvpb->nr_buffers >= NOUVEAU_GEM_MAX_BUFFERS)
+   return NULL;
+ pbbo = nvpb->buffers + nvpb->nr_buffers++;
+ nvbo->pending = pbbo;
+ nvbo->pending_channel = chan;
+ nvbo->pending_refcnt = 0;
+
+
+ nouveau_bo_ref(bo, &ref);
+ pbbo->user_priv = (uint64_t)(unsigned long)ref;
+ pbbo->handle = nvbo->handle;
+ pbbo->valid_domains = NOUVEAU_GEM_DOMAIN_VRAM | NOUVEAU_GEM_DOMAIN_GART;
+ pbbo->read_domains = 0;
+ pbbo->write_domains = 0;

```

```

+ pbbo->presumed.domain
= nvbo->domain;
+ pbbo->presumed.offset = nvbo->offset;
+ pbbo->presumed.valid = 1;
+ return pbbo;
+}
diff --git a/nouveau-1/nouveau_bo.h b/nouveau-1/nouveau_bo.h
new file mode 100644
index 0000000..3a1f2d4
--- /dev/null
+++ b/nouveau-1/nouveau_bo.h
@@ -0,0 +1,104 @@
+/*
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+ * SOFTWARE.
+ */
+
+#ifndef __NOUVEAU_BO_H__
+#define __NOUVEAU_BO_H__
+
+/* Relocation/Buffer type flags */
+#define NOUVEAU_BO_VRAM (1 << 0)
+#define NOUVEAU_BO_GART (1 << 1)
+#define NOUVEAU_BO_RD (1 << 2)
+#define NOUVEAU_BO_WR (1 << 3)
+#define NOUVEAU_BO_RDWR (NOUVEAU_BO_RD | NOUVEAU_BO_WR)
+#define NOUVEAU_BO_MAP (1 << 4)
+#define NOUVEAU_BO_LOW (1 << 6)
+#define NOUVEAU_BO_HIGH (1 << 7)
+#define NOUVEAU_BO_OR (1 << 8)

```

```

+#define NOUVEAU_BO_INVALID (1 << 12)
+#define NOUVEAU_BO_NOSYNC (1 << 13)
+#define NOUVEAU_BO_NOWAIT (1 << 14)
+#define NOUVEAU_BO_IFLUSH (1 << 15)
+#define NOUVEAU_BO_DUMMY
(1 << 31)
+
+#define NOUVEAU_BO_TILE_LAYOUT_MASK 0x0000ff00
+#define NOUVEAU_BO_TILE_16BPP 0x00000001
+#define NOUVEAU_BO_TILE_32BPP 0x00000002
+#define NOUVEAU_BO_TILE_ZETA 0x00000004
+#define NOUVEAU_BO_TILE_SCANOUT 0x00000008
+
+struct nouveau_bo {
+ struct nouveau_device *device;
+ uint32_t handle;
+
+ uint64_t size;
+ void *map;
+
+ uint32_t tile_mode;
+ uint32_t tile_flags;
+};
+
+int
+nouveau_bo_new(struct nouveau_device *, uint32_t flags, int align, int size,
+ struct nouveau_bo **);
+
+int
+nouveau_bo_new_tile(struct nouveau_device *, uint32_t flags, int align,
+ int size, uint32_t tile_mode, uint32_t tile_flags,
+ struct nouveau_bo **);
+
+int
+nouveau_bo_user(struct nouveau_device *, void *ptr, int size,
+ struct nouveau_bo **);
+
+int
+nouveau_bo_wrap(struct nouveau_device *, uint32_t handle, struct nouveau_bo **);
+
+int
+nouveau_bo_handle_get(struct nouveau_bo *, uint32_t *);
+
+int
+nouveau_bo_handle_ref(struct nouveau_device
+ *, uint32_t handle,
+ struct nouveau_bo **);
+

```

```

+int
+nouveau_bo_ref(struct nouveau_bo *, struct nouveau_bo **);
+
+int
+nouveau_bo_map_range(struct nouveau_bo *, uint32_t delta, uint32_t size,
+    uint32_t flags);
+
+void
+nouveau_bo_map_flush(struct nouveau_bo *, uint32_t delta, uint32_t size);
+
+int
+nouveau_bo_map(struct nouveau_bo *, uint32_t flags);
+
+void
+nouveau_bo_unmap(struct nouveau_bo *);
+
+int
+nouveau_bo_busy(struct nouveau_bo *, uint32_t access);
+
+uint32_t
+nouveau_bo_pending(struct nouveau_bo *);
+
+#endif
diff --git a/nouveau-1/nouveau_channel.c b/nouveau-1/nouveau_channel.c
new file mode 100644
index 0000000..96fa03b
--- /dev/null
+++ b/nouveau-1/nouveau_channel.c
@@ -0,0 +1,142 @@
+/*
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```

```

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+ */
+
+#include <stdlib.h>
+#include <string.h>
+#include <errno.h>
+
+#include "nouveau_private.h"
+
+int
+nouveau_channel_alloc(struct nouveau_device
+ *dev, uint32_t fb_ctxdma,
+   uint32_t tt_ctxdma, int pushbuf_size,
+   struct nouveau_channel **chan)
+{
+ struct nouveau_device_priv *nvdev = nouveau_device(dev);
+ struct nouveau_channel_priv *nvchan;
+ unsigned i;
+ int ret;
+
+ if (!nvdev || !chan || *chan)
+   return -EINVAL;
+
+ nvchan = calloc(1, sizeof(struct nouveau_channel_priv));
+ if (!nvchan)
+   return -ENOMEM;
+ nvchan->base.device = dev;
+
+ nvchan->drm.fb_ctxdma_handle = fb_ctxdma;
+ nvchan->drm.tt_ctxdma_handle = tt_ctxdma;
+ ret = drmCommandWriteRead(nvdev->fd, DRM_NOUVEAU_CHANNEL_ALLOC,
+   &nvchan->drm, sizeof(nvchan->drm));
+ if (ret) {
+   free(nvchan);
+   return ret;
+ }
+
+ nvchan->base.id = nvchan->drm.channel;
+ if (nouveau_grobj_ref(&nvchan->base, nvchan->drm.fb_ctxdma_handle,
+   &nvchan->base.vram) ||
+   nouveau_grobj_ref(&nvchan->base, nvchan->drm.tt_ctxdma_handle,
+   &nvchan->base.gart)) {
+   nouveau_channel_free((void *)&nvchan);
+   return -EINVAL;
+ }
+
+ /* Mark all

```

```

DRM-assigned subchannels as in-use */
+ for (i = 0; i < nvchan->drm.nr_subchan; i++) {
+ struct nouveau_grobject_priv *gr = calloc(1, sizeof(*gr));
+
+ gr->base.bound = NOUVEAU_GROBJECT_BOUND_EXPLICIT;
+ gr->base.subc = i;
+ gr->base.handle = nvchan->drm.subchan[i].handle;
+ gr->base.grclass = nvchan->drm.subchan[i].grclass;
+ gr->base.channel = &nvchan->base;
+
+ nvchan->base.subc[i].gr = &gr->base;
+ }
+
+ if (dev->chipset < 0xc0) {
+ ret = nouveau_bo_wrap(dev, nvchan->drm.notifier_handle,
+     &nvchan->notifier_bo);
+ if (!ret)
+ ret = nouveau_bo_map(nvchan->notifier_bo,
+     NOUVEAU_BO_RDWR);
+ if (ret) {
+ nouveau_channel_free((void *)&nvchan);
+ return ret;
+ }
+
+ ret = nouveau_grobject_alloc(&nvchan->base, 0x00000000, 0x0030,
+     &nvchan->base.nullobj);
+ if (ret) {
+ nouveau_channel_free((void *)&nvchan);
+ return ret;
+ }
+ }
+
+ ret = nouveau_pushbuf_init(&nvchan->base, pushbuf_size);
+ if (ret) {
+ nouveau_channel_free((void *)&nvchan);
+ return
+     ret;
+ }
+
+ *chan = &nvchan->base;
+ return 0;
+ }
+
+void
+nouveau_channel_free(struct nouveau_channel **chan)
+{
+ struct nouveau_channel_priv *nvchan;
+ struct nouveau_device_priv *nvdev;

```

```

+ struct drm_nouveau_channel_free cf;
+ unsigned i;
+
+ if (!chan || !*chan)
+ return;
+ nvchan = nouveau_channel(*chan);
+ (*chan)->flush_notify = NULL;
+ *chan = NULL;
+ nvdev = nouveau_device(nvchan->base.device);
+
+ FIRE_RING(&nvchan->base);
+
+ nouveau_pushbuf_fini(&nvchan->base);
+ if (nvchan->notifier_bo) {
+ nouveau_bo_unmap(nvchan->notifier_bo);
+ nouveau_bo_ref(NULL, &nvchan->notifier_bo);
+ }
+
+ for (i = 0; i < nvchan->drm.nr_subchan; i++)
+ free(nvchan->base.subc[i].gr);
+
+ nouveau_grobj_free(&nvchan->base.vram);
+ nouveau_grobj_free(&nvchan->base.gart);
+ nouveau_grobj_free(&nvchan->base.nullobj);
+
+ cf.channel = nvchan->drm.channel;
+ drmCommandWrite(nvdev->fd, DRM_NOUVEAU_CHANNEL_FREE, &cf, sizeof(cf));
+ free(nvchan);
+ }
+
+
+

```

```
diff --git a/nouveau-1/nouveau_channel.h b/nouveau-1/nouveau_channel.h
```

```
new
```

```
file mode 100644
```

```
index 0000000..d61a4c0
```

```
--- /dev/null
```

```
+++ b/nouveau-1/nouveau_channel.h
```

```
@@ -0,0 +1,57 @@
```

```
+/*
```

```
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```

```
+ *
```

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+ * SOFTWARE.
+ */
+
+#ifndef __NOUVEAU_CHANNEL_H__
+#define __NOUVEAU_CHANNEL_H__
+
+struct nouveau_subchannel {
+ struct nouveau_grobj *gr;
+ unsigned sequence;
+};
+
+struct nouveau_channel {
+ uint32_t *cur;
+ uint32_t *end;
+
+ struct nouveau_device *device;
+ int id;
+
+ struct nouveau_grobj *nullobj;
+ struct nouveau_grobj *vram;
+ struct nouveau_grobj *gart;
+
+ void *user_private;
+ void (*hang_notify)(struct nouveau_channel *);
+ void (*flush_notify)(struct nouveau_channel *);
+
+ struct nouveau_subchannel subc[8];
+ unsigned subc_sequence;
+};
+
+int
+nouveau_channel_alloc(struct nouveau_device *, uint32_t fb, uint32_t tt,
+ int pushbuf_size, struct nouveau_channel **);
+
+void
+nouveau_channel_free(struct nouveau_channel **);
+
+#endif

```



```

diff
--git a/nouveau-1/nouveau_device.c b/nouveau-1/nouveau_device.c
new file mode 100644
index 0000000..425c5d2
--- /dev/null
+++ b/nouveau-1/nouveau_device.c
@@ -0,0 +1,198 @@
+/*
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+ * SOFTWARE.
+ */
+
+#include <stdio.h>
+#include <stdlib.h>
+#include <errno.h>
+
+#include "nouveau_private.h"
+
+int
+nouveau_device_open_existing(struct nouveau_device **dev, int close,
+    int fd, drm_context_t ctx)
+{
+    struct nouveau_device_priv *nvdev;
+    drmVersionPtr ver;
+    uint64_t value;
+    int ret;
+
+    if (!dev || *dev)
+        return -EINVAL;
+}

```

```

+ nvdev = calloc(1, sizeof(*nvdev));
+ if (!nvdev)
+   return -ENOMEM;
+ nvdev->fd = fd;
+ nvdev->ctx = ctx;
+ nvdev->needs_close = close;
+
+ ver = drmGetVersion(fd);
+ if (!ver) {
+   nouveau_device_close((void *)&nvdev);
+   return -EINVAL;
+ }
+
+ if ((ver->version_major == 0 && ver->version_patchlevel != 16) ||
+     ver->version_major > 1) {
+   nouveau_device_close((void
+   *)&nvdev);
+   return -EINVAL;
+ }
+
+ drmFreeVersion(ver);
+
+ ret = nouveau_device_get_param(&nvdev->base,
+   NOUVEAU_GETPARAM_VM_VRAM_BASE, &value);
+ if (ret) {
+   nouveau_device_close((void *)&nvdev);
+   return ret;
+ }
+ nvdev->base.vm_vram_base = value;
+
+ ret = nouveau_device_get_param(&nvdev->base,
+   NOUVEAU_GETPARAM_FB_SIZE, &value);
+ if (ret) {
+   nouveau_device_close((void *)&nvdev);
+   return ret;
+ }
+ nvdev->base.vm_vram_size = value;
+
+ ret = nouveau_device_get_param(&nvdev->base,
+   NOUVEAU_GETPARAM_AGP_SIZE, &value);
+ if (ret) {
+   nouveau_device_close((void *)&nvdev);
+   return ret;
+ }
+ nvdev->base.vm_gart_size = value;
+
+ ret = nouveau_bo_init(&nvdev->base);
+ if (ret) {

```

```

+ nouveau_device_close((void *)&nvdev);
+ return ret;
+ }
+
+ ret = nouveau_device_get_param(&nvdev->base,
+     NOUVEAU_GETPARAM_CHIPSET_ID, &value);
+ if (ret) {
+     nouveau_device_close((void *)&nvdev);
+     return ret;
+ }
+ nvdev->base.chipset
+ = value;
+
+ ret = nouveau_device_get_param(&nvdev->base,
+     NOUVEAU_GETPARAM_HAS_BO_USAGE, &value);
+ if (!ret)
+     nvdev->has_bo_usage = value;
+
+ *dev = &nvdev->base;
+ return 0;
+ }
+
+int
+nouveau_device_open(struct nouveau_device **dev, const char *busid)
+{
+     drm_context_t ctx;
+     int fd, ret;
+
+     if (!dev || *dev)
+         return -EINVAL;
+
+     fd = drmOpen("nouveau", busid);
+     if (fd < 0)
+         return -EINVAL;
+
+     ret = drmCreateContext(fd, &ctx);
+     if (ret) {
+         drmClose(fd);
+         return ret;
+     }
+
+     ret = nouveau_device_open_existing(dev, 1, fd, ctx);
+     if (ret) {
+         drmDestroyContext(fd, ctx);
+         drmClose(fd);
+         return ret;
+     }
+
+

```

```

+ return 0;
+ }
+
+ void
+nouveau_device_close(struct nouveau_device **dev)
+ {
+     struct nouveau_device_priv *nvdev;
+
+     if (!dev || !*dev)
+         return;
+     nvdev = nouveau_device(*dev);
+     *dev = NULL;
+
+     nouveau_bo_takedown(&nvdev->base);
+
+     if (nvdev->needs_close) {
+         drmDestroyContext(nvdev->fd, nvdev->ctx);
+         drmClose(nvdev->fd);
+     }
+     free(nvdev);
+ }
+
+ int
+nouveau_device_get_param(struct
nouveau_device *dev,
+     uint64_t param, uint64_t *value)
+ {
+     struct nouveau_device_priv *nvdev = nouveau_device(dev);
+     struct drm_nouveau_getparam g;
+     int ret;
+
+     if (!nvdev || !value)
+         return -EINVAL;
+
+     g.param = param;
+     ret = drmCommandWriteRead(nvdev->fd, DRM_NOUVEAU_GETPARAM,
+         &g, sizeof(g));
+     if (ret)
+         return ret;
+
+     *value = g.value;
+     return 0;
+ }
+
+ int
+nouveau_device_set_param(struct nouveau_device *dev,
+     uint64_t param, uint64_t value)
+ {

```

```

+ struct nouveau_device_priv *nvdev = nouveau_device(dev);
+ struct drm_nouveau_setparam s;
+ int ret;
+
+ if (!nvdev)
+ return -EINVAL;
+
+ s.param = param;
+ s.value = value;
+ ret = drmCommandWriteRead(nvdev->fd, DRM_NOUVEAU_SETPARAM,
+ &s, sizeof(s));
+ if (ret)
+ return ret;
+
+ return 0;
+}
+
diff --git a/nouveau-1/nouveau_device.h b/nouveau-1/nouveau_device.h
new file mode 100644
index 0000000..c0d9333
--- /dev/null
+++ b/nouveau-1/nouveau_device.h
@@
-0,0 +1,33 @@
+/*
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+ * SOFTWARE.
+ */
+
+#ifndef __NOUVEAU_DEVICE_H__

```

```

+#define __NOUVEAU_DEVICE_H__
+
+struct nouveau_device {
+ unsigned chipset;
+ uint64_t vm_vram_base;
+ uint64_t vm_vram_size;
+ uint64_t vm_gart_size;
+};
+
+#endif
diff --git a/nouveau-1/nouveau_drmif.h b/nouveau-1/nouveau_drmif.h
new file mode 100644
index 0000000..ec226a2
--- /dev/null
+++ b/nouveau-1/nouveau_drmif.h
@@ -0,0 +1,58 @@
+/*
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+ */
+
+#ifndef __NOUVEAU_DRMIF_H__
+#define __NOUVEAU_DRMIF_H__
+
+#include <stdint.h>
+#include <xf86drm.h>
+
+#include "nouveau_device.h"
+
+struct nouveau_device_priv {

```

```

+ struct nouveau_device base;
+
+ int fd;
+ drm_context_t ctx;
+ drmLock *lock;
+ int needs_close;
+ int has_bo_usage;
+};
+#define nouveau_device(n) ((struct nouveau_device_priv *)(n))
+
+int
+nouveau_device_open_existing(struct
nouveau_device **, int close,
+   int fd, drm_context_t ctx);
+
+int
+nouveau_device_open(struct nouveau_device **, const char *busid);
+
+void
+nouveau_device_close(struct nouveau_device **);
+
+int
+nouveau_device_get_param(struct nouveau_device *, uint64_t param, uint64_t *v);
+
+int
+nouveau_device_set_param(struct nouveau_device *, uint64_t param, uint64_t val);
+
+#endif
diff --git a/nouveau-1/nouveau_grobj.c b/nouveau-1/nouveau_grobj.c
new file mode 100644
index 0000000..36344b9
--- /dev/null
+++ b/nouveau-1/nouveau_grobj.c
@@ -0,0 +1,148 @@
+/*
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+ *

```

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+ * SOFTWARE.
```

```
+ */
```

```
+
```

```
+#include <stdlib.h>
```

```
+#include <errno.h>
```

```
+
```

```
+#include "nouveau_private.h"
```

```
+
```

```
+int
```

```
+nouveau_grobj_alloc(struct nouveau_channel *chan, uint32_t handle,
```

```
+ int class, struct nouveau_grobj **grobj)
```

```
+{
```

```
+ struct nouveau_device_priv *nvdev = nouveau_device(chan->device);
```

```
+ struct nouveau_grobj_priv *nvgrobj;
```

```
+ struct
```

```
drm_nouveau_grobj_alloc g;
```

```
+ int ret;
```

```
+
```

```
+ if (!nvdev || !grobj || *grobj)
```

```
+ return -EINVAL;
```

```
+
```

```
+ nvgrobj = calloc(1, sizeof(*nvgrobj));
```

```
+ if (!nvgrobj)
```

```
+ return -ENOMEM;
```

```
+ nvgrobj->base.channel = chan;
```

```
+ nvgrobj->base.handle = handle;
```

```
+ nvgrobj->base.grclass = class;
```

```
+ nvgrobj->base.bound = NOUVEAU_GROBJ_UNBOUND;
```

```
+ nvgrobj->base.subc = -1;
```

```
+
```

```
+ g.channel = chan->id;
```

```
+ g.handle = handle;
```

```
+ g.class = class;
```

```
+ ret = drmCommandWrite(nvdev->fd, DRM_NOUVEAU_GROBJ_ALLOC,
```

```
+ &g, sizeof(g));
```

```
+ if (ret) {
```

```
+ nouveau_grobj_free((void *)&nvgrobj);
```

```
+ return ret;
```

```
+ }
```

```
+
```

```
+ *grobj = &nvgrobj->base;
```

```
+ return 0;
```



```

+}
+
+int
+nouveau_grobj_ref(struct nouveau_channel *chan, uint32_t handle,
+ struct nouveau_grobj **grobj)
+{
+ struct nouveau_grobj_priv *nvgrobj;
+
+ if (!chan || !grobj || *grobj)
+ return -EINVAL;
+
+ nvgrobj = calloc(1, sizeof(struct nouveau_grobj_priv));
+ if (!nvgrobj)
+ return -ENOMEM;
+ nvgrobj->base.channel = chan;
+ nvgrobj->base.handle = handle;
+ nvgrobj->base.grclass
+ = 0;
+
+ *grobj = &nvgrobj->base;
+ return 0;
+}
+
+void
+nouveau_grobj_free(struct nouveau_grobj **grobj)
+{
+ struct nouveau_device_priv *nvdev;
+ struct nouveau_channel_priv *chan;
+ struct nouveau_grobj_priv *nvgrobj;
+
+ if (!grobj || !*grobj)
+ return;
+ nvgrobj = nouveau_grobj(*grobj);
+ *grobj = NULL;
+
+
+ chan = nouveau_channel(nvgrobj->base.channel);
+ nvdev = nouveau_device(chan->base.device);
+
+ if (nvgrobj->base.grclass) {
+ struct drm_nouveau_gpuobj_free f;
+
+ FIRE_RING(&chan->base);
+ f.channel = chan->drm.channel;
+ f.handle = nvgrobj->base.handle;
+ drmCommandWrite(nvdev->fd, DRM_NOUVEAU_GPUOBJ_FREE,
+ &f, sizeof(f));
+ }

```

```

+ if (nvgrabj->base.bound != NOUVEAU_GROBJ_UNBOUND)
+ chan->base.subc[nvgrabj->base.subc].gr = NULL;
+ free(nvgrabj);
+ }
+
+void
+nouveau_grabj_autobind(struct nouveau_grabj *grabj)
+{
+ struct nouveau_channel *chan = grabj->channel;
+ struct nouveau_subchannel *subc = NULL;
+ int i;
+
+ for (i = 0; i < 8; i++) {
+ struct
+ nouveau_subchannel *scc = &grabj->channel->subc[i];
+
+ if (scc->gr && scc->gr->bound == NOUVEAU_GROBJ_BOUND_EXPLICIT)
+ continue;
+
+ if (!subc || scc->sequence < subc->sequence)
+ subc = scc;
+ }
+
+ if (subc->gr) {
+ subc->gr->bound = NOUVEAU_GROBJ_UNBOUND;
+ subc->gr->subc = -1;
+ }
+
+ subc->gr = grabj;
+ subc->gr->bound = NOUVEAU_GROBJ_BOUND;
+ subc->gr->subc = subc - &grabj->channel->subc[0];
+
+ WAIT_RING(chan, 2);
+ if (chan->device->chipset < 0xc0) {
+ OUT_RING (chan, (1 << 18) | (grabj->subc << 13));
+ OUT_RING (chan, grabj->handle);
+ } else {
+ OUT_RING (chan, (2 << 28) | (1 << 16) | (grabj->subc << 13));
+ OUT_RING (chan, grabj->grclass);
+ }
+ }
+
diff --git a/nouveau-1/nouveau_grabj.h b/nouveau-1/nouveau_grabj.h
new file mode 100644
index 0000000..51ac7d9
--- /dev/null
+++ b/nouveau-1/nouveau_grabj.h
@@ -0,0 +1,48 @@

```

```

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+ */
+
+#ifndef __NOUVEAU_GROBJ_H__
+#define
__NOUVEAU_GROBJ_H__
+
+#include "nouveau_channel.h"
+
+struct nouveau_grobj {
+ struct nouveau_channel *channel;
+ int grclass;
+ uint32_t handle;
+
+ enum {
+ NOUVEAU_GROBJ_UNBOUND = 0,
+ NOUVEAU_GROBJ_BOUND = 1,
+ NOUVEAU_GROBJ_BOUND_EXPLICIT = 2
+ } bound;
+ int subc;
+};
+
+int nouveau_grobj_alloc(struct nouveau_channel *, uint32_t handle,
+ int class, struct nouveau_grobj **);
+int nouveau_grobj_ref(struct nouveau_channel *, uint32_t handle,
+ struct nouveau_grobj **);
+void nouveau_grobj_free(struct nouveau_grobj **);
+void nouveau_grobj_autobind(struct nouveau_grobj *);

```

```

+
+ #endif
diff --git a/nouveau-1/nouveau_notifier.c b/nouveau-1/nouveau_notifier.c
new file mode 100644
index 0000000..513fa63
--- /dev/null
+++ b/nouveau-1/nouveau_notifier.c
@@ -0,0 +1,148 @@
+/*
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+ */
+
+ #include <stdlib.h>
+ #include <errno.h>
+ #include <sys/time.h>
+
+ #include
+ "nouveau_private.h"
+
+ #define NOTIFIER(__v) \
+ struct nouveau_notifier_priv *nvnotify = nouveau_notifier(notifier); \
+ volatile uint32_t * __v = (uint32_t *)((char *)nvnotify->map + (id * 32))
+
+ int
+ nouveau_notifier_alloc(struct nouveau_channel *chan, uint32_t handle,
+ int count, struct nouveau_notifier **notifier)
+ {
+ struct nouveau_notifier_priv *nvnotify;
+ int ret;

```

```

+
+ if (!chan || !notifier || *notifier)
+ return -EINVAL;
+
+ nvnotify = calloc(1, sizeof(struct nouveau_notifier_priv));
+ if (!nvnotify)
+ return -ENOMEM;
+ nvnotify->base.channel = chan;
+ nvnotify->base.handle = handle;
+
+ nvnotify->drm.channel = chan->id;
+ nvnotify->drm.handle = handle;
+ nvnotify->drm.size = (count * 32);
+ if ((ret = drmCommandWriteRead(nouveau_device(chan->device)->fd,
+     DRM_NOUVEAU_NOTIFIEROBJ_ALLOC,
+     &nvnotify->drm,
+     sizeof(nvnotify->drm)))) {
+     nouveau_notifier_free((void
+ *)&nvnotify);
+ return ret;
+ }
+
+ nvnotify->map = (char *)nouveau_channel(chan)->notifier_bo->map +
+ nvnotify->drm.offset;
+ *notifier = &nvnotify->base;
+ return 0;
+ }
+
+void
+nouveau_notifier_free(struct nouveau_notifier **notifier)
+{
+
+ struct nouveau_notifier_priv *nvnotify;
+ struct nouveau_channel_priv *nvchan;
+ struct nouveau_device_priv *nvdev;
+ struct drm_nouveau_gpuobj_free f;
+
+ if (!notifier || !*notifier)
+ return;
+ nvnotify = nouveau_notifier(*notifier);
+ *notifier = NULL;
+
+ nvchan = nouveau_channel(nvnotify->base.channel);
+ nvdev = nouveau_device(nvchan->base.device);
+
+ FIRE_RING(&nvchan->base);
+
+ f.channel = nvchan->drm.channel;

```

```

+ f.handle = nvnotify->base.handle;
+ drmCommandWrite(nvdev->fd, DRM_NOUVEAU_GPUOBJ_FREE, &f, sizeof(f));
+ free(nvnotify);
+}
+
+void
+nouveau_notifier_reset(struct nouveau_notifier *notifier, int id)
+{
+ NOTIFIER(n);
+
+
+ n[NV_NOTIFY_TIME_0 /4] = 0x00000000;
+ n[NV_NOTIFY_TIME_1 /4] = 0x00000000;
+ n[NV_NOTIFY_RETURN_VALUE/4]
+ = 0x00000000;
+ n[NV_NOTIFY_STATE /4] = (NV_NOTIFY_STATE_STATUS_IN_PROCESS <<
+ NV_NOTIFY_STATE_STATUS_SHIFT);
+}
+
+uint32_t
+nouveau_notifier_status(struct nouveau_notifier *notifier, int id)
+{
+ NOTIFIER(n);
+
+
+ return n[NV_NOTIFY_STATE/4] >> NV_NOTIFY_STATE_STATUS_SHIFT;
+}
+
+uint32_t
+nouveau_notifier_return_val(struct nouveau_notifier *notifier, int id)
+{
+ NOTIFIER(n);
+
+
+ return n[NV_NOTIFY_RETURN_VALUE/4];
+}
+
+static inline double
+gettime(void)
+{
+ struct timeval tv;
+
+
+ gettimeofday(&tv, NULL);
+ return (double)tv.tv_sec + tv.tv_usec / 1000000.0;
+}
+
+int
+nouveau_notifier_wait_status(struct nouveau_notifier *notifier, int id,
+ uint32_t status, double timeout)
+{
+ NOTIFIER(n);

```

```

+ double time = 0, t_start = gettimeofday();
+
+ while (time <= timeout) {
+   uint32_t v;
+
+   v = n[NV_NOTIFY_STATE/4] >> NV_NOTIFY_STATE_STATUS_SHIFT;
+   if (v == status)
+     return 0;
+
+   if (timeout)
+     time = gettimeofday() - t_start;
+ }
+
+ return
-EBUSY;
+}
+
diff --git a/nouveau-1/nouveau_notifier.h b/nouveau-1/nouveau_notifier.h
new file mode 100644
index 0000000..dbc6a3b
--- /dev/null
+++ b/nouveau-1/nouveau_notifier.h
@@ -0,0 +1,63 @@
+/*
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+ * SOFTWARE.
+ */
+
+#ifndef __NOUVEAU_NOTIFIER_H__
+#define __NOUVEAU_NOTIFIER_H__

```

```

+
+#define NV_NOTIFIER_SIZE                32
+#define NV_NOTIFY_TIME_0                0x00000000
+#define NV_NOTIFY_TIME_1                0x00000004
+#define NV_NOTIFY_RETURN_VALUE          0x00000008
+#define NV_NOTIFY_STATE                 0x0000000C
+#define NV_NOTIFY_STATE_STATUS_MASK     0xFF000000
+#define NV_NOTIFY_STATE_STATUS_SHIFT    24
+#define NV_NOTIFY_STATE_STATUS_COMPLETED
        0x00
+#define NV_NOTIFY_STATE_STATUS_IN_PROCESS    0x01
+#define NV_NOTIFY_STATE_ERROR_CODE_MASK     0x0000FFFF
+#define NV_NOTIFY_STATE_ERROR_CODE_SHIFT    0
+
+struct nouveau_notifier {
+ struct nouveau_channel *channel;
+ uint32_t handle;
+};
+
+int
+nouveau_notifier_alloc(struct nouveau_channel *, uint32_t handle, int count,
+ struct nouveau_notifier **);
+
+void
+nouveau_notifier_free(struct nouveau_notifier **);
+
+void
+nouveau_notifier_reset(struct nouveau_notifier *, int id);
+
+uint32_t
+nouveau_notifier_status(struct nouveau_notifier *, int id);
+
+uint32_t
+nouveau_notifier_return_val(struct nouveau_notifier *, int id);
+
+int
+nouveau_notifier_wait_status(struct nouveau_notifier *, int id, uint32_t status,
+ double timeout);
+
+#endif
diff --git a/nouveau-1/nouveau_private.h b/nouveau-1/nouveau_private.h
new file mode 100644
index
0000000..124fe87
--- /dev/null
+++ b/nouveau-1/nouveau_private.h
@@ -0,0 +1,136 @@
+/*

```



```

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+ */
+
+#ifndef __NOUVEAU_PRIVATE_H__
+#define __NOUVEAU_PRIVATE_H__
+
+#include <stdint.h>
+#include <xf86drm.h>
+#include <nouveau_drm.h>
+
+#include "nouveau_drmif.h"
+#include "nouveau_device.h"
+#include "nouveau_channel.h"
+#include "nouveau_grobj.h"
+#include "nouveau_notifier.h"
+#include "nouveau_bo.h"
+#include "nouveau_resource.h"
+#include "nouveau_pushbuf.h"
+#include "nouveau_reloc.h"
+
+#define CALPB_BUFFERS 3
+
+struct nouveau_pushbuf_priv {
+ uint32_t cal_suffix0;
+ uint32_t cal_suffix1;
+ struct nouveau_bo *buffer[CALPB_BUFFERS];
+ int current;
+ int current_offset;
+

```

```

+ unsigned *pushbuf;
+ unsigned size;
+
+ uint32_t *marker;
+ unsigned marker_offset;
+ unsigned marker_relocs;
+ unsigned marker_push;
+
+ struct drm_nouveau_gem_pushbuf_bo *buffers;
+ unsigned nr_buffers;
+ struct
+   drm_nouveau_gem_pushbuf_reloc *relocs;
+ unsigned nr_relocs;
+ struct drm_nouveau_gem_pushbuf_push push[NOUVEAU_GEM_MAX_PUSH];
+ unsigned nr_push;
+};
+#define nouveau_pushbuf(n) ((struct nouveau_pushbuf_priv *)(n))
+
+int
+nouveau_pushbuf_init(struct nouveau_channel *, int buf_size);
+void
+nouveau_pushbuf_fini(struct nouveau_channel *);
+
+struct nouveau_channel_priv {
+ struct nouveau_channel base;
+
+ struct drm_nouveau_channel_alloc drm;
+
+ struct nouveau_bo *notifier_bo;
+
+ struct nouveau_pushbuf_priv pb;
+};
+#define nouveau_channel(n) ((struct nouveau_channel_priv *)(n))
+
+struct nouveau_grobj_priv {
+ struct nouveau_grobj base;
+};
+#define nouveau_grobj(n) ((struct nouveau_grobj_priv *)(n))
+
+struct nouveau_notifier_priv {
+ struct nouveau_notifier base;
+
+ struct drm_nouveau_notifierobj_alloc drm;
+ volatile void *map;
+};
+#define nouveau_notifier(n) ((struct nouveau_notifier_priv *)(n))
+
+struct nouveau_bo_priv {

```

```

+ struct nouveau_bo base;
+ int refcount;
+
+ /*
+ Buffer configuration + usage hints */
+ unsigned flags;
+ unsigned size;
+ unsigned align;
+ int user;
+
+ /* Tracking */
+ struct drm_nouveau_gem_pushbuf_bo *pending;
+ struct nouveau_channel *pending_channel;
+ int pending_refcnt;
+ int write_marker;
+
+ /* Userspace object */
+ void *systemem;
+
+ /* Kernel object */
+ uint32_t global_handle;
+ drm_handle_t handle;
+ uint64_t map_handle;
+ int map_refcnt;
+ void *map;
+
+ /* Last known information from kernel on buffer status */
+ uint64_t offset;
+ uint32_t domain;
+ };
+#define nouveau_bo(n) ((struct nouveau_bo_priv *) (n))
+
+int
+nouveau_bo_init(struct nouveau_device *);
+
+void
+nouveau_bo_takedown(struct nouveau_device *);
+
+struct drm_nouveau_gem_pushbuf_bo *
+nouveau_bo_emit_buffer(struct nouveau_channel *, struct nouveau_bo *);
+
+#endif
diff --git a/nouveau-1/nouveau_pushbuf.c b/nouveau-1/nouveau_pushbuf.c
new file mode 100644
index 0000000..59f60d9
--- /dev/null
+++ b/nouveau-1/nouveau_pushbuf.c
@@ -0,0 +1,344 @@

```

```

+/*
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+ * 2007 Nouveau Project
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+ * to deal in the Software without restriction, including without limitation
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+ * WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING
+ * FROM, OUT OF
+ * OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
+ * SOFTWARE.
+ */
+
+#include <stdio.h>
+#include <stdlib.h>
+#include <errno.h>
+#include <assert.h>
+
+#include "nouveau_private.h"
+
+#define PB_BUFMGR_DWORDS (4096 / 2)
+#define PB_MIN_USER_DWORDS 2048
+
+static int
+nouveau_pushbuf_space(struct nouveau_channel *chan, unsigned min)
+{
+ struct nouveau_channel_priv *nvchan = nouveau_channel(chan);
+ struct nouveau_pushbuf_priv *nvpb = &nvchan->pb;
+ struct nouveau_bo *bo;
+ int ret;
+
+ if (min < PB_MIN_USER_DWORDS)
+ min = PB_MIN_USER_DWORDS;
+
+ nvpb->current_offset = chan->cur - nvpb->pushbuf;
+ if (chan->cur + min + 2 <= chan->end)
+ return 0;

```

```

+
+ nvpb->current++;
+ if (nvpb->current == CALPB_BUFFERS)
+ nvpb->current = 0;
+ bo = nvpb->buffer[nvpb->current];
+
+ ret = nouveau_bo_map(bo, NOUVEAU_BO_WR);
+ if (ret)
+ return ret;
+
+ nvpb->size = (bo->size - 8) / 4;
+ nvpb->pushbuf = bo->map;
+ nvpb->current_offset = 0;
+
+ chan->cur = nvpb->pushbuf;
+ chan->end
= nvpb->pushbuf + nvpb->size;
+
+ nouveau_bo_unmap(bo);
+ return 0;
+}
+
+static void
+nouveau_pushbuf_fini_call(struct nouveau_channel *chan)
+{
+ struct nouveau_channel_priv *nvchan = nouveau_channel(chan);
+ struct nouveau_pushbuf_priv *nvpb = &nvchan->pb;
+ int i;
+
+ for (i = 0; i < CALPB_BUFFERS; i++)
+ nouveau_bo_ref(NULL, &nvpb->buffer[i]);
+ nvpb->pushbuf = NULL;
+}
+
+static int
+nouveau_pushbuf_init_call(struct nouveau_channel *chan, int buf_size)
+{
+ struct drm_nouveau_gem_pushbuf req;
+ struct nouveau_channel_priv *nvchan = nouveau_channel(chan);
+ struct nouveau_pushbuf_priv *nvpb = &nvchan->pb;
+ struct nouveau_device *dev = chan->device;
+ uint32_t flags = 0;
+ int i, ret;
+
+ if (nvchan->drm.pushbuf_domains & NOUVEAU_GEM_DOMAIN_GART)
+ flags |= NOUVEAU_BO_GART;
+ else
+ flags |= NOUVEAU_BO_VRAM;

```

```

+
+ req.channel = chan->id;
+ req.nr_push = 0;
+ ret = drmCommandWriteRead(nouveau_device(dev)->fd,
+   DRM_NOUVEAU_GEM_PUSHBUF, &req, sizeof(req));
+ if
+   (ret)
+   return ret;
+
+ for (i = 0; i < CALPB_BUFFERS; i++) {
+   ret = nouveau_bo_new(dev, flags | NOUVEAU_BO_MAP,
+     0, buf_size, &nvpb->buffer[i]);
+   if (ret) {
+     nouveau_pushbuf_fini_call(chan);
+     return ret;
+   }
+ }
+
+ nvpb->cal_suffix0 = req.suffix0;
+ nvpb->cal_suffix1 = req.suffix1;
+ return 0;
+}
+
+int
+nouveau_pushbuf_init(struct nouveau_channel *chan, int buf_size)
+{
+ struct nouveau_channel_priv *nvchan = nouveau_channel(chan);
+ struct nouveau_pushbuf_priv *nvpb = &nvchan->pb;
+ int ret;
+
+ ret = nouveau_pushbuf_init_call(chan, buf_size);
+ if (ret)
+   return ret;
+
+ ret = nouveau_pushbuf_space(chan, 0);
+ if (ret)
+   return ret;
+
+ nvpb->buffers = calloc(NOUVEAU_GEM_MAX_BUFFERS,
+   sizeof(struct drm_nouveau_gem_pushbuf_bo));
+ nvpb->relocs = calloc(NOUVEAU_GEM_MAX_RELOCS,
+   sizeof(struct drm_nouveau_gem_pushbuf_reloc));
+ return 0;
+}
+
+void
+nouveau_pushbuf_fini(struct nouveau_channel *chan)
+{

```

```

+ struct nouveau_channel_priv *nvchan
= nouveau_channel(chan);
+ struct nouveau_pushbuf_priv *nvpb = &nvchan->pb;
+ nouveau_pushbuf_fini_call(chan);
+ free(nvpb->buffers);
+ free(nvpb->relocs);
+ }
+
+static int
+nouveau_pushbuf_bo_add(struct nouveau_channel *chan, struct nouveau_bo *bo,
+    unsigned offset, unsigned length)
+{
+ struct nouveau_channel_priv *nvchan = nouveau_channel(chan);
+ struct nouveau_pushbuf_priv *nvpb = &nvchan->pb;
+ struct drm_nouveau_gem_pushbuf_push *p = &nvpb->push[nvpb->nr_push++];
+ struct drm_nouveau_gem_pushbuf_bo *pbbo;
+ struct nouveau_bo_priv *nvbo = nouveau_bo(bo);
+
+ pbbo = nouveau_bo_emit_buffer(chan, bo);
+ if (!pbbo)
+ return -ENOMEM;
+ pbbo->valid_domains &= nvchan->drm.pushbuf_domains;
+ pbbo->read_domains |= nvchan->drm.pushbuf_domains;
+ nvbo->pending_refcnt++;
+
+ p->bo_index = pbbo - nvpb->buffers;
+ p->offset = offset;
+ p->length = length;
+ return 0;
+ }
+
+int
+nouveau_pushbuf_submit(struct nouveau_channel *chan, struct nouveau_bo *bo,
+    unsigned offset,
+    unsigned length)
+{
+ struct nouveau_pushbuf_priv *nvpb = &nouveau_channel(chan)->pb;
+ int ret, len;
+
+ if ((AVAIL_RING(chan) + nvpb->current_offset) != nvpb->size) {
+ if (nvpb->cal_suffix0 || nvpb->cal_suffix1) {
+ *(chan->cur++) = nvpb->cal_suffix0;
+ *(chan->cur++) = nvpb->cal_suffix1;
+ }
+
+ len = (chan->cur - nvpb->pushbuf) - nvpb->current_offset;
+
+ ret = nouveau_pushbuf_bo_add(chan, nvpb->buffer[nvpb->current],

```

```

+     nvpb->current_offset * 4, len * 4);
+ if (ret)
+ return ret;
+
+ nvpb->current_offset += len;
+ }
+
+ return bo ? nouveau_pushbuf_bo_add(chan, bo, offset, length) : 0;
+}
+
+static void
+nouveau_pushbuf_bo_unref(struct nouveau_pushbuf_priv *nvpb, int index)
+{
+ struct drm_nouveau_gem_pushbuf_bo *pbbo = &nvpb->buffers[index];
+ struct nouveau_bo *bo = (void*)(unsigned long)pbbo->user_priv;
+ struct nouveau_bo_priv *nvbo = nouveau_bo(bo);
+
+ if (--nvbo->pending_refcnt)
+ return;
+
+ if (pbbo->presumed.valid == 0) {
+ nvbo->domain = pbbo->presumed.domain;
+ nvbo->offset
+ = pbbo->presumed.offset;
+ }
+
+ nvbo->pending = NULL;
+ nouveau_bo_ref(NULL, &bo);
+
+ /* we only ever remove from the tail of the pending lists,
+ * so this is safe.
+ */
+ nvpb->nr_buffers--;
+}
+
+int
+nouveau_pushbuf_flush(struct nouveau_channel *chan, unsigned min)
+{
+ struct nouveau_device_priv *nvdev = nouveau_device(chan->device);
+ struct nouveau_channel_priv *nvchan = nouveau_channel(chan);
+ struct nouveau_pushbuf_priv *nvpb = &nvchan->pb;
+ struct drm_nouveau_gem_pushbuf req;
+ unsigned i;
+ int ret;
+
+ ret = nouveau_pushbuf_submit(chan, NULL, 0, 0);
+ if (ret)
+ return ret;

```



```

+
+ if (!nvpb->nr_push)
+ return 0;
+
+ req.channel = chan->id;
+ req.nr_push = nvpb->nr_push;
+ req.push = (uint64_t)(unsigned long)nvpb->push;
+ req.nr_buffers = nvpb->nr_buffers;
+ req.buffer = (uint64_t)(unsigned long)nvpb->buffer;
+ req.nr_relocs = nvpb->nr_relocs;
+ req.reloc = (uint64_t)(unsigned long)nvpb->reloc;
+ req.suffix0 = nvpb->cal_suffix0;
+ req.suffix1
= nvpb->cal_suffix1;
+
+ do {
+ ret = drmCommandWriteRead(nvdev->fd, DRM_NOUVEAU_GEM_PUSHBUF,
+ &req, sizeof(req));
+ } while (ret == -EAGAIN);
+ nvpb->cal_suffix0 = req.suffix0;
+ nvpb->cal_suffix1 = req.suffix1;
+ nvdev->base.vm_vram_size = req.vram_available;
+ nvdev->base.vm_gart_size = req.gart_available;
+
+ /* Update presumed offset/domain for any buffers that moved.
+ * Dereference all buffers on validate list
+ */
+ for (i = 0; i < nvpb->nr_relocs; i++) {
+ nouveau_pushbuf_bo_unref(nvpb, nvpb->relocs[i].bo_index);
+ nouveau_pushbuf_bo_unref(nvpb, nvpb->relocs[i].reloc_bo_index);
+ }
+
+ for (i = 0; i < nvpb->nr_push; i++)
+ nouveau_pushbuf_bo_unref(nvpb, nvpb->push[i].bo_index);
+
+ nvpb->nr_buffers = 0;
+ nvpb->nr_relocs = 0;
+ nvpb->nr_push = 0;
+
+ /* Allocate space for next push buffer */
+ if (nouveau_pushbuf_space(chan, min))
+ assert(0);
+
+ if (chan->flush_notify)
+ chan->flush_notify(chan);
+
+ nvpb->marker = NULL;
+ return ret;

```

```

+}
+
+int
+nouveau_pushbuf_marker_emit(struct
nouveau_channel *chan,
+   unsigned wait_dwords, unsigned wait_relocs)
+{
+ struct nouveau_pushbuf_priv *nvpb = &nouveau_channel(chan)->pb;
+
+ if (AVAIL_RING(chan) < wait_dwords)
+ return nouveau_pushbuf_flush(chan, wait_dwords);
+
+ if (nvpb->nr_relocs + wait_relocs >= NOUVEAU_GEM_MAX_RELOCS)
+ return nouveau_pushbuf_flush(chan, wait_dwords);
+
+ nvpb->marker = chan->cur;
+ nvpb->marker_offset = nvpb->current_offset;
+ nvpb->marker_push = nvpb->nr_push;
+ nvpb->marker_relocs = nvpb->nr_relocs;
+ return 0;
+}
+
+void
+nouveau_pushbuf_marker_undo(struct nouveau_channel *chan)
+{
+ struct nouveau_pushbuf_priv *nvpb = &nouveau_channel(chan)->pb;
+ unsigned i;
+
+ if (!nvpb->marker)
+ return;
+
+ /* undo any relocs/buffers added to the list since last marker */
+ for (i = nvpb->marker_relocs; i < nvpb->nr_relocs; i++) {
+ nouveau_pushbuf_bo_unref(nvpb, nvpb->relocs[i].bo_index);
+ nouveau_pushbuf_bo_unref(nvpb, nvpb->relocs[i].reloc_bo_index);
+ }
+ nvpb->nr_relocs
= nvpb->marker_relocs;
+
+ for (i = nvpb->marker_push; i < nvpb->nr_push; i++)
+ nouveau_pushbuf_bo_unref(nvpb, nvpb->push[i].bo_index);
+ nvpb->nr_push = nvpb->marker_push;
+
+ /* reset pushbuf back to last marker */
+ chan->cur = nvpb->marker;
+ nvpb->current_offset = nvpb->marker_offset;
+ nvpb->marker = NULL;
+}

```

```

+
+int
+nouveau_pushbuf_emit_reloc(struct nouveau_channel *chan, void *ptr,
+ struct nouveau_bo *bo, uint32_t data, uint32_t data2,
+ uint32_t flags, uint32_t vor, uint32_t tor)
+{
+ struct nouveau_pushbuf_priv *nvpb = &nouveau_channel(chan)->pb;
+ int ret;
+
+
+ ret = nouveau_reloc_emit(chan, nvpb->buffer[nvpb->current],
+ (char *)ptr - (char *)nvpb->pushbuf, ptr,
+ bo, data, data2, flags, vor, tor);
+ if (ret)
+ return ret;
+
+
+ return 0;
+}
+
diff --git a/nouveau-1/nouveau_pushbuf.h b/nouveau-1/nouveau_pushbuf.h
new file mode 100644
index 0000000..2a98789
--- /dev/null
+++ b/nouveau-1/nouveau_pushbuf.h
@@ -0,0 +1,162 @@
+/*
+ * Copyright
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+ * WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT
+ * OF
+ * OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE
+ * SOFTWARE.
+ */
+

```

```

+#ifndef __NOUVEAU_PUSHBUF_H__
+#define __NOUVEAU_PUSHBUF_H__
+
+#include <assert.h>
+#include <string.h>
+
+#include "nouveau_bo.h"
+#include "nouveau_grobj.h"
+
+int
+nouveau_pushbuf_flush(struct nouveau_channel *, unsigned min);
+
+int
+nouveau_pushbuf_marker_emit(struct nouveau_channel *chan,
+    unsigned wait_dwords, unsigned wait_relocs);
+
+void
+nouveau_pushbuf_marker_undo(struct nouveau_channel *chan);
+
+int
+nouveau_pushbuf_emit_reloc(struct nouveau_channel *, void *ptr,
+    struct nouveau_bo *, uint32_t data, uint32_t data2,
+    uint32_t flags, uint32_t vor, uint32_t tor);
+
+int
+nouveau_pushbuf_submit(struct nouveau_channel *chan, struct nouveau_bo *bo,
+    unsigned offset, unsigned length);
+
+/* Push buffer access macros */
+static __inline__ int
+MARK_RING(struct nouveau_channel *chan, unsigned dwords, unsigned relocs)
+{
+    return nouveau_pushbuf_marker_emit(chan,
+        dwords, relocs);
+}
+
+static __inline__ void
+MARK_UNDO(struct nouveau_channel *chan)
+{
+    nouveau_pushbuf_marker_undo(chan);
+}
+
+static __inline__ void
+OUT_RING(struct nouveau_channel *chan, unsigned data)
+{
+    *(chan->cur++) = (data);
+}
+

```

```

+static __inline__ void
+OUT_RINGp(struct nouveau_channel *chan, const void *data, unsigned size)
+{
+ memcpy(chan->cur, data, size * 4);
+ chan->cur += size;
+}
+
+static __inline__ void
+OUT_RINGf(struct nouveau_channel *chan, float f)
+{
+ union { uint32_t i; float f; } c;
+ c.f = f;
+ OUT_RING(chan, c.i);
+}
+
+static __inline__ unsigned
+AVAIL_RING(struct nouveau_channel *chan)
+{
+ return chan->end - chan->cur;
+}
+
+static __inline__ void
+WAIT_RING(struct nouveau_channel *chan, unsigned size)
+{
+ if (chan->cur + size > chan->end)
+ nouveau_pushbuf_flush(chan, size);
+}
+
+static __inline__ void
+FIRE_RING(struct nouveau_channel *chan)
+{
+ nouveau_pushbuf_flush(chan, 0);
+}
+
+static __inline__ int
+OUT_RELOC(struct nouveau_channel
+ *chan, struct nouveau_bo *bo,
+ unsigned data, unsigned flags, unsigned vor, unsigned tor)
+{
+ return nouveau_pushbuf_emit_reloc(chan, chan->cur++, bo,
+ data, 0, flags, vor, tor);
+}
+
+static __inline__ int
+OUT_RELOC2(struct nouveau_channel *chan, struct nouveau_bo *bo,
+ unsigned data, unsigned data2, unsigned flags,
+ unsigned vor, unsigned tor)
+{

```

```

+ return nouveau_pushbuf_emit_reloc(chan, chan->cur++, bo,
+   data, data2, flags, vor, tor);
+}
+
+/* Raw data + flags depending on FB/TT buffer */
+static __inline__ int
+OUT_RELOCd(struct nouveau_channel *chan, struct nouveau_bo *bo,
+  unsigned data, unsigned flags, unsigned vor, unsigned tor)
+{
+ return OUT_RELOC(chan, bo, data, flags | NOUVEAU_BO_OR, vor, tor);
+}
+
+/* FB/TT object handle */
+static __inline__ int
+OUT_RELOCo(struct nouveau_channel *chan, struct nouveau_bo *bo,
+  unsigned flags)
+{
+ return OUT_RELOC(chan, bo, 0, flags | NOUVEAU_BO_OR,
+  chan->vram->handle, chan->gart->handle);
+}
+
+/*
+ Low 32-bits of offset */
+static __inline__ int
+OUT_RELOCl(struct nouveau_channel *chan, struct nouveau_bo *bo,
+  unsigned delta, unsigned flags)
+{
+ return OUT_RELOC(chan, bo, delta, flags | NOUVEAU_BO_LOW, 0, 0);
+}
+
+/* Low 32-bits of offset + GPU linear access range info */
+static __inline__ int
+OUT_RELOCr(struct nouveau_channel *chan, struct nouveau_bo *bo,
+  unsigned delta, unsigned size, unsigned flags)
+{
+ return OUT_RELOC2(chan, bo, delta, size, flags | NOUVEAU_BO_LOW, 0, 0);
+}
+
+/* High 32-bits of offset */
+static __inline__ int
+OUT_RELOCc(struct nouveau_channel *chan, struct nouveau_bo *bo,
+  unsigned delta, unsigned flags)
+{
+ return OUT_RELOC(chan, bo, delta, flags | NOUVEAU_BO_HIGH, 0, 0);
+}
+
+endif
diff --git a/nouveau-1/nouveau_reloc.c b/nouveau-1/nouveau_reloc.c

```

```

new file mode 100644
index 0000000..cd219db
--- /dev/null
+++ b/nouveau-1/nouveau_reloc.c
@@ -0,0 +1,154 @@
+/*
+ * Copyright 2010 Nouveau Project
+ *
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+ * copy of this software and associated documentation files (the "Software"),
+ * to deal in the Software without restriction, including without limitation
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+ * and/or sell copies of the Software, and to permit persons to whom the
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+ *
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+ * IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY,
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+ * THE AUTHORS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY,
+ * WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF
+ * OR IN CONNECTION WITH THE SOFTWARE OR THE
+ * USE OR OTHER DEALINGS IN THE
+ * SOFTWARE.
+ */
+
+#include <stdio.h>
+#include <stdlib.h>
+#include <errno.h>
+#include <assert.h>
+
+#include "nouveau_private.h"
+
+static uint32_t
+nouveau_reloc_calc(struct drm_nouveau_gem_pushbuf_bo *pbbo,
+ struct drm_nouveau_gem_pushbuf_reloc *r)
+{
+ uint32_t push = 0;
+
+ if (r->flags & NOUVEAU_GEM_RELOC_LOW)
+ push = (pbbo->presumed.offset + r->data);
+ else
+ if (r->flags & NOUVEAU_GEM_RELOC_HIGH)
+ push = (pbbo->presumed.offset + r->data) >> 32;
+ else

```

```

+ push = r->data;
+
+ if (r->flags & NOUVEAU_GEM_RELOC_OR) {
+ if (pbbo->presumed.domain & NOUVEAU_GEM_DOMAIN_VRAM)
+ push |= r->vor;
+ else
+ push |= r->tor;
+ }
+
+ return push;
+}
+
+int
+nouveau_reloc_emit(struct nouveau_channel *chan, struct nouveau_bo *reloc_bo,
+ uint32_t reloc_offset, uint32_t *reloc_ptr,
+ struct nouveau_bo *bo, uint32_t data, uint32_t data2,
+ uint32_t flags, uint32_t vor, uint32_t tor)
+{
+ struct nouveau_pushbuf_priv *nvpb = &nouveau_channel(chan)->pb;
+ struct
+ nouveau_bo_priv *nvbo = nouveau_bo(bo);
+ struct drm_nouveau_gem_pushbuf_reloc *r;
+ struct drm_nouveau_gem_pushbuf_bo *pbbo, *rpbbo;
+ uint32_t domains = 0;
+
+ if (nvpb->nr_relocs >= NOUVEAU_GEM_MAX_RELOCS) {
+ fprintf(stderr, "too many relocs!!\n");
+ return -ENOMEM;
+ }
+
+ if (nvbo->user && (flags & NOUVEAU_BO_WR)) {
+ fprintf(stderr, "write to user buffer!!\n");
+ return -EINVAL;
+ }
+
+ /* We're about to reloc a user buffer, better make sure we don't cause
+ * a double migration.
+ */
+ if (!(nvbo->flags & (NOUVEAU_BO_GART | NOUVEAU_BO_VRAM)))
+ nvbo->flags |= (flags & (NOUVEAU_BO_GART | NOUVEAU_BO_VRAM));
+
+ /* add buffer to validation list */
+ pbbo = nouveau_bo_emit_buffer(chan, bo);
+ if (!pbbo) {
+ fprintf(stderr, "buffer emit fail :(\n");
+ return -ENOMEM;
+ }
+
+ nouveau_bo(bo)->pending_refcnt++;

```



```

+
+ if (flags & (NOUVEAU_BO_VRAM | NOUVEAU_BO_GART)) {
+ if (flags & NOUVEAU_BO_VRAM)
+ domains |= NOUVEAU_GEM_DOMAIN_VRAM;
+ if (flags & NOUVEAU_BO_GART)
+ domains
+ |= NOUVEAU_GEM_DOMAIN_GART;
+ } else
+ domains |= nvbo->domain;
+
+ if (!(pbbo->valid_domains & domains)) {
+ fprintf(stderr, "no valid domains remain!\n");
+ return -EINVAL;
+ }
+ pbbo->valid_domains &= domains;
+
+ assert(flags & NOUVEAU_BO_RDWR);
+ if (flags & NOUVEAU_BO_RD) {
+ pbbo->read_domains |= domains;
+ }
+ if (flags & NOUVEAU_BO_WR) {
+ pbbo->write_domains |= domains;
+ nvbo->write_marker = 1;
+ }
+
+ /* nvc0 gallium driver uses reloc_emit() with NULL target buffer
+ * to inform bufmgr of a buffer's use - however, we need something
+ * to track, so create a reloc for now, and hope it never triggers
+ * (it shouldn't, constant virtual address..)
+ */
+ if (!reloc_bo) {
+ reloc_bo = nvpb->buffer[nvpb->current];
+ reloc_offset = 0;
+ reloc_ptr = NULL;
+ }
+
+ /* add reloc target bo to validation list, and create the reloc */
+ rpbbo = nouveau_bo_emit_buffer(chan, reloc_bo);
+ if (!rpbbo)
+ return -ENOMEM;
+ nouveau_bo(reloc_bo)->pending_refcnt++;
+
+ r
+ = nvpb->relocs + nvpb->nr_relocs++;
+ r->reloc_bo_index = rpbbo - nvpb->buffers;
+ r->reloc_bo_offset = reloc_offset;
+ r->bo_index = pbbo - nvpb->buffers;
+ r->flags = 0;

```

```

+ if (flags & NOUVEAU_BO_LOW)
+ r->flags |= NOUVEAU_GEM_RELOC_LOW;
+ if (flags & NOUVEAU_BO_HIGH)
+ r->flags |= NOUVEAU_GEM_RELOC_HIGH;
+ if (flags & NOUVEAU_BO_OR)
+ r->flags |= NOUVEAU_GEM_RELOC_OR;
+ r->data = data;
+ r->vor = vor;
+ r->tor = tor;
+
+ if (reloc_ptr) {
+ if (flags & NOUVEAU_BO_DUMMY)
+ *reloc_ptr = 0;
+ else
+ *reloc_ptr = nouveau_reloc_calc(pbbo, r);
+ }
+
+ return 0;
+}
+
diff --git a/nouveau-1/nouveau_reloc.h b/nouveau-1/nouveau_reloc.h
new file mode 100644
index 0000000..24ddb52
--- /dev/null
+++ b/nouveau-1/nouveau_reloc.h
@@ -0,0 +1,32 @@
+/*
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+ */

```

```

+
+ifndef __NOUVEAU_RELOC_H__
+#define __NOUVEAU_RELOC_H__
+
+int
+nouveau_reloc_emit(struct nouveau_channel *chan,
struct nouveau_bo *reloc_bo,
+ uint32_t reloc_offset, uint32_t *reloc_ptr,
+ struct nouveau_bo *bo, uint32_t data, uint32_t data2,
+ uint32_t flags, uint32_t vor, uint32_t tor);
+
+#endif
diff --git a/nouveau-1/nouveau_resource.c b/nouveau-1/nouveau_resource.c
new file mode 100644
index 0000000..7acaf7d
--- /dev/null
+++ b/nouveau-1/nouveau_resource.c
@@ -0,0 +1,124 @@
+/*
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+ */
+
+#include <stdlib.h>
+#include <errno.h>
+
+#include "nouveau_private.h"
+
+int
+nouveau_resource_init(struct nouveau_resource **heap,

```

```

+   unsigned start, unsigned size)
+{
+ struct nouveau_resource *r;
+
+ r = calloc(1, sizeof(struct nouveau_resource));
+ if (!r)
+ return 1;
+
+ r->start = start;
+ r->size = size;
+ *heap = r;
+ return 0;
+}
+
+void
+nouveau_resource_destroy(struct nouveau_resource **heap)
+{
+ if (!*heap)
+ return;
+ free(*heap);
+ *heap = NULL;
+}
+
+int
+nouveau_resource_alloc(struct
+nouveau_resource *heap, unsigned size, void *priv,
+   struct nouveau_resource **res)
+{
+ struct nouveau_resource *r;
+
+ if (!heap || !size || !res || *res)
+ return 1;
+
+ while (heap) {
+ if (!heap->in_use && heap->size >= size) {
+ r = calloc(1, sizeof(struct nouveau_resource));
+ if (!r)
+ return 1;
+
+ r->start = (heap->start + heap->size) - size;
+ r->size = size;
+ r->in_use = 1;
+ r->priv = priv;
+
+ heap->size -= size;
+
+ r->next = heap->next;
+ if (heap->next)

```

```

+ heap->next->prev = r;
+ r->prev = heap;
+ heap->next = r;
+
+ *res = r;
+ return 0;
+ }
+
+ heap = heap->next;
+ }
+
+ return 1;
+}
+
+void
+nouveau_resource_free(struct nouveau_resource **res)
+{
+ struct nouveau_resource *r;
+
+ if (!res || !*res)
+ return;
+ r = *res;
+ *res = NULL;
+
+ r->in_use = 0;
+
+ if (r->next && !r->next->in_use) {
+ struct nouveau_resource *new = r->next;
+
+ new->prev = r->prev;
+ if (r->prev)
+ r->prev->next
+ = new;
+ new->size += r->size;
+ new->start = r->start;
+
+ free(r);
+ r = new;
+ }
+
+ if (r->prev && !r->prev->in_use) {
+ r->prev->next = r->next;
+ if (r->next)
+ r->next->prev = r->prev;
+ r->prev->size += r->size;
+ free(r);
+ }
+
+

```

```

+}
diff --git a/nouveau-1/nouveau_resource.h b/nouveau-1/nouveau_resource.h
new file mode 100644
index 0000000..b760dfb
--- /dev/null
+++ b/nouveau-1/nouveau_resource.h
@@ -0,0 +1,51 @@
+/*
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+ */
+
+#ifndef __NOUVEAU_RESOURCE_H__
+#define __NOUVEAU_RESOURCE_H__
+
+struct nouveau_resource {
+ struct nouveau_resource *prev;
+ struct nouveau_resource *next;
+
+ int in_use;
+ void *priv;
+
+ unsigned int start;
+ unsigned int size;
+};
+
+int
+nouveau_resource_init(struct nouveau_resource **heap, unsigned start,
+ unsigned size);
+

```

```

+void
+nouveau_resource_destroy(struct nouveau_resource **heap);
+
+int
+nouveau_resource_alloc(struct
nouveau_resource *heap, unsigned size, void *priv,
+ struct nouveau_resource **);
+
+void
+nouveau_resource_free(struct nouveau_resource **);
+
+#endif
diff --git a/nouveau-1/nv04_pushbuf.h b/nouveau-1/nv04_pushbuf.h
new file mode 100644
index 0000000..586b284
--- /dev/null
+++ b/nouveau-1/nv04_pushbuf.h
@@ -0,0 +1,66 @@
+/*
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+ */
+
+#ifndef __NV04_PUSHBUF_H__
+#define __NV04_PUSHBUF_H__
+
+#include "nouveau_pushbuf.h"
+
+static __inline__ void
+BEGIN_RING(struct nouveau_channel *chan, struct nouveau_grobj *gr,

```

```

+ unsigned mthd, unsigned size)
+{
+ if (gr->bound == NOUVEAU_GROBJ_UNBOUND)
+ nouveau_grojb_autobind(gr);
+ chan->subc[gr->subc].sequence = chan->subc_sequence++;
+
+ WAIT_RING(chan, size + 1);
+ OUT_RING(chan, (gr->subc << 13) | (size << 18) | mthd);
+}
+
+/* non-incrementing BEGIN_RING */
+static __inline__ void
+BEGIN_RING_NI(struct nouveau_channel *chan,
+ struct nouveau_grojb *gr,
+ unsigned mthd, unsigned size)
+{
+ BEGIN_RING(chan, gr, mthd | 0x40000000, size);
+}
+
+static __inline__ void
+BIND_RING(struct nouveau_channel *chan, struct nouveau_grojb *gr, unsigned sc)
+{
+ struct nouveau_subchannel *subc = &gr->channel->subc[sc];
+
+ if (subc->gr) {
+ if (subc->gr->bound == NOUVEAU_GROBJ_BOUND_EXPLICIT)
+ assert(0);
+ subc->gr->bound = NOUVEAU_GROBJ_UNBOUND;
+ }
+ subc->gr = gr;
+ subc->gr->subc = sc;
+ subc->gr->bound = NOUVEAU_GROBJ_BOUND_EXPLICIT;
+
+ BEGIN_RING(chan, gr, 0x0000, 1);
+ OUT_RING (chan, gr->handle);
+}
+
+#endif
diff --git a/nouveau-1/nvc0_pushbuf.h b/nouveau-1/nvc0_pushbuf.h
new file mode 100644
index 0000000..40dc7e6
--- /dev/null
+++ b/nouveau-1/nvc0_pushbuf.h
@@ -0,0 +1,92 @@
+/*
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```



```

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+ */
+
+ #ifndef __NVC0_PUSHBUF_H__
+ #define __NVC0_PUSHBUF_H__
+
+ #include "nouveau_pushbuf.h"
+
+ #define SUBC_BIND(chan,
gr) do {
+ if (gr->bound == NOUVEAU_GROBJ_UNBOUND)
+ nouveau_grobj_autobind(gr);
+ chan->subc[gr->subc].sequence = chan->subc_sequence++;
+ } while (0)
+
+ /* incremental methods */
+ static __inline__ void
+ BEGIN_RING(struct nouveau_channel *chan, struct nouveau_grobj *gr,
+ unsigned mthd, unsigned size)
+ {
+ SUBC_BIND(chan, gr);
+ WAIT_RING(chan, size + 1);
+ OUT_RING (chan, (0x2 << 28) | (size << 16) | (gr->subc << 13) | (mthd >> 2));
+ }
+
+ /* non-incremental */
+ static __inline__ void
+ BEGIN_RING_NI(struct nouveau_channel *chan, struct nouveau_grobj *gr,
+ unsigned mthd, unsigned size)
+ {
+ SUBC_BIND(chan, gr);
+ WAIT_RING(chan, size + 1);

```

```

+ OUT_RING (chan, (0x6 << 28) | (size << 16) | (gr->subc << 13) | (mthd >> 2));
+}
+
+/* increment-once */
+static __inline__ void
+BEGIN_RING_1I(struct nouveau_channel *chan, struct nouveau_grobj *gr,
+
+    unsigned mthd, unsigned size)
+{
+ SUBC_BIND(chan, gr);
+ WAIT_RING(chan, size + 1);
+ OUT_RING (chan, (0xa << 28) | (size << 16) | (gr->subc << 13) | (mthd >> 2));
+}
+
+/* inline-data */
+static __inline__ void
+IMMED_RING(struct nouveau_channel *chan, struct nouveau_grobj *gr,
+    unsigned mthd, unsigned data)
+{
+ SUBC_BIND(chan, gr);
+ WAIT_RING(chan, 1);
+ OUT_RING (chan, (0x8 << 28) | (data << 16) | (gr->subc << 13) | (mthd >> 2));
+}
+
+static __inline__ void
+BIND_RING(struct nouveau_channel *chan, struct nouveau_grobj *gr, unsigned sc)
+{
+ struct nouveau_subchannel *subc = &gr->channel->subc[sc];
+
+ if (subc->gr) {
+ if (subc->gr->bound == NOUVEAU_GROBJ_BOUND_EXPLICIT)
+ assert(0);
+ subc->gr->bound = NOUVEAU_GROBJ_UNBOUND;
+ }
+ subc->gr = gr;
+ subc->gr->subc = sc;
+ subc->gr->bound = NOUVEAU_GROBJ_BOUND_EXPLICIT;
+
+ BEGIN_RING(chan, gr, 0x0000, 1);
+ OUT_RING (chan, gr->grclass);
+}
+
+#endif
diff --git a/nouveau/Makefile.am b/nouveau/Makefile.am
index 206e892..f21157e
100644
--- a/nouveau/Makefile.am
+++ b/nouveau/Makefile.am

```

```

@@ -6,20 +6,20 @@ AM_CFLAGS = \
-I$(top_srcdir)/include/drm \
-DDEBUG

-libdrm_nouveau_la_LTLIBRARIES = libdrm_nouveau.la
-libdrm_nouveau_ladir = $(libdir)
-libdrm_nouveau_la_LDFLAGS = -version-number 2:0:0 -no-undefined
-libdrm_nouveau_la_LIBADD = ../libdrm.la @PTHREADSTUBS_LIBS@
+libdrm_nouveau2_la_LTLIBRARIES = libdrm_nouveau2.la
+libdrm_nouveau2_ladir = $(libdir)
+libdrm_nouveau2_la_LDFLAGS = -version-number 2:0:0 -no-undefined
+libdrm_nouveau2_la_LIBADD = ../libdrm.la @PTHREADSTUBS_LIBS@

-libdrm_nouveau_la_SOURCES = nouveau.c \
-    pushbuf.c \
-    bufctx.c \
-    abi16.c \
-    private.h
+libdrm_nouveau2_la_SOURCES = nouveau.c \
+    pushbuf.c \
+    bufctx.c \
+    abi16.c \
+    private.h

libdrm_nouveauintelincludedir = ${includedir}/libdrm
libdrm_nouveauintelinclude_HEADERS = nouveau.h

pkgconfigdir = @pkgconfigdir@
-pkgconfig_DATA = libdrm_nouveau.pc
+pkgconfig_DATA = libdrm_nouveau2.pc
diff
--git a/nouveau/libdrm_nouveau.pc.in b/nouveau/libdrm_nouveau.pc.in
deleted file mode 100644
index 6170613..0000000
--- a/nouveau/libdrm_nouveau.pc.in
+++ /dev/null
@@ -1,11 +0,0 @@
-prefix=@prefix@
-exec_prefix=@exec_prefix@
-libdir=@libdir@
-includedir=@includedir@
-
-Name: libdrm_nouveau
-Description: Userspace interface to nouveau kernel DRM services
-Version: 2.4.33
-Libs: -L${libdir} -ldrm_nouveau
-Cflags: -I${includedir} -I${includedir}/libdrm -I${includedir}/nouveau

```

```
-Requires.private: libdrm
diff --git a/nouveau/libdrm_nouveau2.pc.in b/nouveau/libdrm_nouveau2.pc.in
new file mode 100644
index 0000000..36971e8
--- /dev/null
+++ b/nouveau/libdrm_nouveau2.pc.in
@@ -0,0 +1,11 @@
+prefix=@prefix@
+exec_prefix=@exec_prefix@
+libdir=@libdir@
+includedir=@includedir@
+
+Name: libdrm_nouveau2
+Description: Userspace interface to nouveau kernel DRM services
+Version: 2.4.33
+Libs: -L${libdir} -ldrm_nouveau2
+Cflags: -I${includedir} -I${includedir}/libdrm
+Requires.private:
libdrm
--
1.7.10.2
```

Found in path(s):

```
* /opt/cola/permits/2005422175_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.37-nouveau-1.patch
```

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\* Eric Anholt <eric@anholt.net>

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\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/updatedraw.c

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/getversion.c

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/intel/intel\_bufmgr.c

\*

/opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/getclient.c

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/setversion.c

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/openclose.c

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/drmtest.c

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/drmtest.h

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\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/xf86drmMode.c

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\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/radeon/radeon\_bo\_gem.c  
\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/radeon/radeon\_bo.c  
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\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/radeon/radeon\_surface.h

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gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/xf86drm.h

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AC\_PREREQ([2.63])

AC\_INIT([libdrm],

[2.4.39],

[[https://bugs.freedesktop.org/enter\\_bug.cgi?product=DRI](https://bugs.freedesktop.org/enter_bug.cgi?product=DRI)],

[libdrm])

AC\_CONFIG\_HEADERS([config.h])

AC\_CONFIG\_SRCDIR([Makefile.am])

AC\_CONFIG\_MACRO\_DIR([m4])

AC\_CONFIG\_AUX\_DIR([build-aux])

AM\_INIT\_AUTOMAKE([1.10 foreign dist-bzip2])

AM\_MAINTAINER\_MODE([enable])

# Enable quiet compiles on automake 1.11.

m4\_ifdef([AM\_SILENT\_RULES], [AM\_SILENT\_RULES([yes])])

# Check for programs

AC\_PROG\_CC

AC\_USE\_SYSTEM\_EXTENSIONS

AC\_SYS\_LARGEFILE

AC\_FUNC\_ALLOCA

```

# Initialize libtool
LT_PREREQ([2.2])
LT_INIT([disable-static])

PKG_CHECK_MODULES(PTHREADSTUBS, pthread-stubs)
AC_SUBST(PTHREADSTUBS_CFLAGS)
AC_SUBST(PTHREADSTUBS_LIBS)

pkgconfigdir=${libdir}/pkgconfig
AC_SUBST(pkgconfigdir)
AC_ARG_ENABLE([udev],
    [AS_HELP_STRING([--enable-udev],
        [Enable support for using udev instead of mknod (default: disabled)]),
    [UDEV=$enableval], [UDEV=no])

AC_ARG_ENABLE(libkms,
    AS_HELP_STRING([--disable-libkms],
        [Disable KMS mm abstraction library (default: auto)]),
    [LIBKMS=$enableval], [LIBKMS=auto])

AC_ARG_ENABLE(intel,
    AS_HELP_STRING([--disable-intel],
        [Enable support for intel's KMS API (default: auto)]),
    [INTEL=$enableval], [INTEL=auto])

AC_ARG_ENABLE(radeon,
    AS_HELP_STRING([--disable-radeon],
        [Enable support for radeon's KMS API (default: auto)]),
    [RADEON=$enableval], [RADEON=auto])

AC_ARG_ENABLE(nouveau,
    AS_HELP_STRING([--disable-nouveau],
        [Enable support for nouveau's KMS API (default: auto)]),
    [NOUVEAU=$enableval], [NOUVEAU=auto])

AC_ARG_ENABLE(vmwgfx-experimental-api,
    AS_HELP_STRING([--enable-vmwgfx-experimental-api],
        [Install vmwgfx's experimental kernel API header (default:
disabled)]),
    [VMWGFEX=$enableval], [VMWGFEX=no])

AC_ARG_ENABLE(omap-experimental-api,
    AS_HELP_STRING([--enable-omap-experimental-api],
        [Enable support for OMAP's experimental API (default: disabled)]),
    [OMAP=$enableval], [OMAP=no])

AC_ARG_ENABLE(exynos-experimental-api,

```

```
AS_HELP_STRING([--enable-exynos-experimental-api],
[Enable support for EXYNOS's experimental API (default: disabled)],
[EXYNOS=$enableval], [EXYNOS=no])
```

```
dnl =====
```

```
dnl check compiler flags
```

```
AC_DEFUN([LIBDRM_CC_TRY_FLAG], [
AC_MSG_CHECKING([whether $CC supports $1])
```

```
libdrm_save_CFLAGS="$CFLAGS"
CFLAGS="$CFLAGS $1"
```

```
AC_COMPILE_IFELSE([ ], [libdrm_cc_flag=yes], [libdrm_cc_flag=no])
CFLAGS="$libdrm_save_CFLAGS"
```

```
if test "x$libdrm_cc_flag" = "xyes"; then
  ifelse([$2], , :, [$2])
else
  ifelse([$3], , :, [$3])
fi
AC_MSG_RESULT([$libdrm_cc_flag])
])
```

```
dnl We use clock_gettime to check
for timeouts in drmWaitVBlank
```

```
AC_CHECK_FUNCS([clock_gettime], [CLOCK_LIB=],
[AC_CHECK_LIB([rt], [clock_gettime], [CLOCK_LIB=-lrt],
[AC_MSG_ERROR([Couldn't find clock_gettime])]])]
AC_SUBST([CLOCK_LIB])
```

```
AC_CHECK_FUNCS([open_memstream], [HAVE_OPEN_MEMSTREAM=yes])
```

```
dnl Use lots of warning flags with gcc and compatible compilers
```

```
dnl Note: if you change the following variable, the cache is automatically
dnl skipped and all flags rechecked. So there's no need to do anything
dnl else. If for any reason you need to force a recheck, just change
dnl MAYBE_WARN in an ignorable way (like adding whitespace)
```

```
MAYBE_WARN="-Wall -Wextra \
-Wsign-compare -Werror-implicit-function-declaration \
-Wpointer-arith -Wwrite-strings -Wstrict-prototypes \
-Wmissing-prototypes -Wmissing-declarations -Wnested-externs \
-Wpacked -Wswitch-enum -Wmissing-format-attribute \
-Wstrict-aliasing=2 -Winit-self \
-Wdeclaration-after-statement -Wold-style-definition \
-Wno-missing-field-initializers
```

```

-Wno-unused-parameter \
-Wno-attributes -Wno-long-long -Winline"

# invalidate cached value if MAYBE_WARN has changed
if test "x$libdrm_cv_warn_maybe" != "x$MAYBE_WARN"; then
  unset libdrm_cv_warn_cflags
fi
AC_CACHE_CHECK([for supported warning flags], libdrm_cv_warn_cflags, [
  echo
  WARN_CFLAGS=""

  # Some warning options are not supported by all versions of
  # gcc, so test all desired options against the current
  # compiler.
  #
  # Note that there are some order dependencies
  # here. Specifically, an option that disables a warning will
  # have no net effect if a later option then enables that
  # warnings, (perhaps implicitly). So we put some grouped
  # options (-Wall and -Wextra) up front and the -Wno options
  # last.

  for W in $MAYBE_WARN; do
    LIBDRM_CC_TRY_FLAG([$W], [WARN_CFLAGS="$WARN_CFLAGS $W"])
  done

  libdrm_cv_warn_cflags=$WARN_CFLAGS
  libdrm_cv_warn_maybe=$MAYBE_WARN

  AC_MSG_CHECKING([which warning flags were supported])
  WARN_CFLAGS="$libdrm_cv_warn_cflags"

  if
    test "x$UDEV" = xyes; then
      AC_DEFINE(UDEV, 1, [Have UDEV support])
    fi

  AC_CANONICAL_HOST
  if test "x$LIBKMS" = xauto ; then
    case $host_os in
      linux*) LIBKMS="yes" ;;
      *) LIBKMS="no" ;;
    esac
  fi

  AM_CONDITIONAL(HAVE_LIBKMS, [test "x$LIBKMS" = xyes])

  AM_CONDITIONAL(HAVE_VMWGFX, [test "x$VMWGFX" = xyes])

```

```

if test "x$VMWGFX" = xyes; then
    AC_DEFINE(HAVE_VMWGFX, 1, [Have vmwgfx kernel headers])
fi

AM_CONDITIONAL(HAVE_NOUVEAU, [test "x$NOUVEAU" = xyes])
if test "x$NOUVEAU" = xyes; then
    AC_DEFINE(HAVE_NOUVEAU, 1, [Have nouveau (nvidia) support])
fi

AM_CONDITIONAL(HAVE_OMAP, [test "x$OMAP" = xyes])
if test "x$OMAP" = xyes; then
    AC_DEFINE(HAVE_OMAP, 1, [Have OMAP support])
fi

AM_CONDITIONAL(HAVE_EXYNOS, [test "x$EXYNOS" = xyes])
if test "x$EXYNOS" = xyes; then
    AC_DEFINE(HAVE_EXYNOS, 1, [Have EXYNOS support])
fi

PKG_CHECK_MODULES(CAIRO, cairo, [HAVE_CAIRO=yes], [HAVE_CAIRO=no])
if test "x$HAVE_CAIRO" = xyes; then
    AC_DEFINE(HAVE_CAIRO, 1, [Have cairo support])
fi
AM_CONDITIONAL(HAVE_CAIRO,
[test "x$HAVE_CAIRO" = xyes])

# For enumerating devices in test case
PKG_CHECK_MODULES(LIBUDEV, libudev, [HAVE_LIBUDEV=yes], [HAVE_LIBUDEV=no])
if test "x$HAVE_LIBUDEV" = xyes; then
    AC_DEFINE(HAVE_LIBUDEV, 1, [Have libudev support])
fi
AM_CONDITIONAL(HAVE_LIBUDEV, [test "x$HAVE_LIBUDEV" = xyes])

if test "x$INTEL" != "xno" -o "x$RADEON" != "xno" -o "x$NOUVEAU" != "xno" -o "x$OMAP" != "xno"; then
    # Check for atomic intrinsics
    AC_CACHE_CHECK([for native atomic primitives], drm_cv_atomic_primitives,
    [
        drm_cv_atomic_primitives="none"

        AC_LINK_IFELSE([AC_LANG_PROGRAM([
int atomic_add(int i) { return __sync_fetch_and_add (&i, 1); }
int atomic_cmpxchg(int i, int j, int k) { return __sync_val_compare_and_swap (&i, j, k); }
        ]],[[]]),
        [drm_cv_atomic_primitives="Intel"],[])

    if test "x$drm_cv_atomic_primitives" = "xnone"; then
        AC_CHECK_HEADER([atomic_ops.h],

```

```

drm_cv_atomic_primitives="libatomic-ops")
fi

# atomic functions defined in <atomic.h> & libc on Solaris
if test "x$drm_cv_atomic_primitives" = "xnone"; then
    AC_CHECK_FUNC([atomic_cas_uint],
        drm_cv_atomic_primitives="Solaris")
fi

)

if test "x$drm_cv_atomic_primitives" = xIntel; then
    AC_DEFINE(HAVE_LIBDRM_ATOMIC_PRIMITIVES, 1,
        [Enable if your compiler supports the Intel __sync_* atomic primitives])
fi

if test "x$drm_cv_atomic_primitives" = "xlibatomic-ops"; then
    AC_DEFINE(HAVE_LIB_ATOMIC_OPS, 1, [Enable if you have libatomic-ops-dev installed])
fi

if test "x$drm_cv_atomic_primitives" = "xnone"; then
    if test "x$INTEL" != "xauto"; then
        if test "x$INTEL" != "xno"; then
            AC_MSG_ERROR([libdrm_intel depends upon atomic operations, which were not found for your
compiler/cpu. Try compiling with -march=native, or install the libatomics-op-dev package, or, failing
both of those, disable support for Intel GPUs by passing --disable-intel to ./configure])
        fi
    else
        AC_MSG_WARN([Disabling libdrm_intel. It depends on atomic operations, which were not found for
your compiler/cpu. Try compiling with -march=native, or install the libatomics-op-dev package.])
        INTEL=no
    fi
    if test "x$RADEON" != "xauto"; then
        if test "x$RADEON" != "xno"; then
            AC_MSG_ERROR([libdrm_radeon depends upon atomic operations, which were not found for your
compiler/cpu. Try compiling with -march=native, or install the libatomics-op-dev package, or, failing both of those,
disable support for Radeon support by passing --disable-radeon to ./configure])
        fi
    else
        AC_MSG_WARN([Disabling libdrm_radeon. It depends on atomic operations, which were not found for
your compiler/cpu. Try compiling with -march=native,
or install the libatomics-op-dev package.])
        RADEON=no
    fi
    if test "x$NOUVEAU" != "xauto"; then
        if test "x$NOUVEAU" != "xno"; then
            AC_MSG_ERROR([libdrm_nouveau depends upon atomic operations, which were not found for your
compiler/cpu. Try compiling with -march=native, or install the libatomics-op-dev package, or, failing both of those,
disable support for NVIDIA GPUs by passing --disable-nouveau to ./configure])
        fi
    fi

```

```

else
    AC_MSG_WARN([Disabling libdrm_nouveau. It depends on atomic operations, which were not found
for your compiler/cpu. Try compiling with -march=native, or install the libatomics-op-dev package.])
    NOUVEAU=no
fi
else
if test "x$INTEL" != "xno"; then
    case $host_cpu in
        i?86|x86_64) INTEL=yes ;;
        *) INTEL=no ;;
    esac
fi
if test "x$RADEON" != "xno"; then
    RADEON=yes
fi
if test "x$NOUVEAU" != "xno"; then
    NOUVEAU=yes
fi
fi
fi

if test "x$INTEL" != "xno"; then
    PKG_CHECK_MODULES(PCIAACCESS, [pciaccess >= 0.10])
fi
AC_SUBST(PCIAACCESS_CFLAGS)
AC_SUBST(PCIAACCESS_LIBS)

PKG_CHECK_MODULES(VAALGRIND, [valgrind], [have_valgrind=yes], [have_valgrind=no])
if test "x$have_valgrind" = "xyes"; then
    AC_DEFINE([HAVE_VALGRIND], 1, [Use valgrind intrinsics to suppress false warnings])
fi

AM_CONDITIONAL(HAVE_INTEL, [test "x$INTEL" != "xno"])
AM_CONDITIONAL(HAVE_RADEON, [test "x$RADEON" != "xno"])
AM_CONDITIONAL(HAVE_NOUVEAU, [test "x$NOUVEAU" != "xno"])
if test "x$RADEON" = xyes; then
    AC_DEFINE(HAVE_RADEON, 1, [Have radeon support])
fi

AC_ARG_WITH([kernel-source],
    [AS_HELP_STRING([--with-kernel-source],
    [specify path to linux kernel source]),
    [kernel_source="$with_kernel_source"])
AC_SUBST(kernel_source)

AC_SUBST(WARN_CFLAGS)
AC_CONFIG_FILES([

```

```
Makefile
libkms/Makefile
libkms/libkms.pc
intel/Makefile
intel/libdrm_intel.pc
radeon/Makefile
radeon/libdrm_radeon.pc
nouveau/Makefile
nouveau/libdrm_nouveau.pc
omap/Makefile
omap/libdrm_omap.pc
exynos/Makefile
exynos/libdrm_exynos.pc
tests/Makefile
tests/modeprint/Makefile
tests/modetest/Makefile
tests/kmstest/Makefile
tests/radeon/Makefile
tests/vbltest/Makefile
include/Makefile
include/drm/Makefile
libdrm.pc)
AC_OUTPUT
```

```
echo
""
echo "$PACKAGE_STRING will be compiled with:"
echo ""
echo " libkms    $LIBKMS"
echo " Intel API  $INTEL"
echo " vmwgfx API  $VMWGFY"
echo " Radeon API  $RADEON"
echo " Nouveau API $NOUVEAU"
echo " OMAP API    $OMAP"
echo " EXYNOS API  $EXYNOS"
echo ""
```

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```
* /opt/cola/permits/2005422175_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/configure.ac
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\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/radeon/radeon\_ttm.c  
\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/radeon/rbo.h

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\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/radeon/bof.c

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/\* xf86drmSL.c -- Skip list support

\* Created: Mon May 10 09:28:13 1999 by faith@precisioninsight.com

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\*

\* Authors: Rickard E. (Rik) Faith <faith@valinux.com>

\*

\* DESCRIPTION

\*

\* This file contains a straightforward skip list implementation.n

\*

\* FUTURE ENHANCEMENTS

\*

\* REFERENCES

\*

\* [Pugh90] William Pugh. Skip Lists: A Probabilistic Alternative to

\* Balanced Trees. CACM 33(6), June 1990, pp. 668-676.

\*

\*/

Found in path(s):

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/xf86drmSL.c

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/\* mga\_drm.h -- Public header for the Matrox g200/g400 driver -\*- linux-c -\*-

\* Created: Tue Jan 25 01:50:01 1999 by jhartmann@precisioninsight.com

\*

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```
/* drmstat.c -- DRM device status and testing program
* Created: Tue Jan 5 08:19:24 1999 by faith@precisioninsight.com
*
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* Authors: Rickard E. (Rik) Faith <faith@valinux.com>
*
*/
```

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\* Gareth Hughes <gareth@valinux.com>

\* Kevin E. Martin <martin@valinux.com>

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 \* Authors:  
 \* Ben Widawsky <ben@bwidawsk.net>  
 \*  
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```

```
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```

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```
/* xf86drmRandom.c -- "Minimal Standard" PRNG Implementation
```

```
* Created: Mon Apr 19 08:28:13 1999 by faith@precisioninsight.com
```

```
*
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\* Authors: Rickard E. (Rik) Faith <faith@valinux.com>  
\*  
\* DESCRIPTION  
\*  
\* This file contains a simple, straightforward implementation of the Park  
\* & Miller "Minimal Standard" PRNG [PM88, PMS93], which is a Lehmer  
\* multiplicative linear congruential generator (MLCG) with a period of  
\*  $2^{31}-1$ .  
\*  
\* This implementation is intended to provide a reliable, portable PRNG  
\* that is suitable for testing a hash table implementation and for  
\* implementing skip lists.  
\*  
\* FUTURE ENHANCEMENTS  
\*  
\* If initial seeds are not selected randomly, two instances of the PRNG  
\* can be correlated.  
\* [Knuth81, pp. 32-33] describes a shuffling technique  
\* that can eliminate this problem.  
\*  
\* If PRNGs are used for simulation, the period of the current  
\* implementation may be too short. [LE88] discusses methods of combining  
\* MLCGs to produce much longer periods, and suggests some alternative  
\* values for A and M. [LE90 and Sch92] also provide information on  
\* long-period PRNGs.  
\*  
\* REFERENCES  
\*  
\* [Knuth81] Donald E. Knuth. The Art of Computer Programming. Volume 2:  
\* Seminumerical Algorithms. Reading, Massachusetts: Addison-Wesley, 1981.  
\*

\* [LE88] Pierre L'Ecuyer. "Efficient and Portable Combined Random Number  
\* Generators". CACM 31(6), June 1988, pp. 742-774.

\*

\* [LE90] Pierre L'Ecuyer. "Random Numbers for Simulation". CACM 33(10),  
\* October 1990, pp. 85-97.

\*

\* [PM88] Stephen K. Park and Keith W. Miller. "Random Number Generators:  
\* Good Ones are Hard to Find". CACM 31(10), October 1988, pp. 1192-1201.

\*

\* [Sch92] Bruce Schneier. "Pseudo-Ransom Sequence  
\* Generator for 32-Bit

\* CPUs". Dr. Dobbs's Journal 17(2), February 1992, pp. 34, 37-38, 40.

\*

\* [PMS93] Stephen K. Park, Keith W. Miller, and Paul K. Stockmeyer. In

\* "Technical Correspondence: Remarks on Choosing and Implementing Random

\* Number Generators". CACM 36(7), July 1993, pp. 105-110.

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\* gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/xf86drmRandom.c

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\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/libkms/nouveau.c

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/libkms/libkms.h

\*

/opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/libkms/internal.h

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/libkms/dumb.c

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/include/drm/vmwgfx\_drm.h

\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-

gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/kmstest/main.c  
\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/libkms/api.c  
\*  
/opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/libkms/vmwgfx.c  
\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/libkms/linux.c  
\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/libkms/intel.c  
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\* /opt/cola/permits/2005422175\_1715245585.4411945/0/libdrm-2.4.39-1.el6-1.src.rpm-cosi-expand-archive-gqAY2IYk/libdrm-2.4.39.tar.bz2-cosi-expand-archive-kvcujjM7/libdrm-2.4.39/tests/modetest/buffers.c

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/\* xf86drmHash.c -- Small hash table support for integer -> integer mapping

\* Created: Sun Apr 18 09:35:45 1999 by faith@precisioninsight.com

\*

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\* Authors: Rickard E. (Rik) Faith <faith@valinux.com>

\*

\* DESCRIPTION

\*

\* This file contains a straightforward implementation of a fixed-sized

\* hash table using self-organizing linked lists [Knuth73, pp. 398-399] for  
\* collision resolution. There are two potentially interesting things  
\* about this implementation:

\*

\* 1) The table is power-of-two sized. Prime sized tables are more  
\* traditional, but do not have a significant advantage over power-of-two  
\* sized table, especially when double hashing is not used for collision  
\* resolution.

\*

\* 2) The hash computation  
uses a table of random integers [Hanson97,  
\* pp. 39-41].

\*

#### \* FUTURE ENHANCEMENTS

\*

\* With a table size of 512, the current implementation is sufficient for a  
\* few hundred keys. Since this is well above the expected size of the  
\* tables for which this implementation was designed, the implementation of  
\* dynamic hash tables was postponed until the need arises. A common (and  
\* naive) approach to dynamic hash table implementation simply creates a  
\* new hash table when necessary, rehashes all the data into the new table,  
\* and destroys the old table. The approach in [Larson88] is superior in  
\* two ways: 1) only a portion of the table is expanded when needed,  
\* distributing the expansion cost over several insertions, and 2) portions  
\* of the table can be locked, enabling a scalable thread-safe  
\* implementation.

\*

#### \* REFERENCES

\*

\* [Hanson97] David R. Hanson. C Interfaces and Implementations:  
\* Techniques for Creating Reusable Software. Reading, Massachusetts:  
\* Addison-Wesley, 1997.

\*

\* [Knuth73] Donald E. Knuth. The Art of Computer Programming. Volume 3:  
\* Sorting and Searching. Reading, Massachusetts: Addison-Wesley, 1973.

\*

\* [Larson88] Per-Ake Larson. "Dynamic Hash Tables". CACM 31(4), April  
\* 1988, pp. 446-457.

\*

\*/

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For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original



author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library.

The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the `Lesser` General Public License because it does *Less* to protect the user's freedom than the ordinary General Public License. It also provides other free software developers *Less* of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU

operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a ``work based on the library" and a ``work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

@iftex

@appendixsubsec TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@end iftex

@ifinfo

@center GNU LESSER GENERAL PUBLIC LICENSE

@center TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@end ifinfo

@enumerate 0

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If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that,

in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)  
@end enumerate

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Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However,

linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work.

(Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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As an exception to the Sections above, you may also combine or link a ``work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

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Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable ``work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

@item

Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

@item

Accompany the work with a written offer, valid for at

least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

@item

If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

@item

Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

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For an executable, the required form of the work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:

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Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.

@item

Give prominent notice with the combined library of the fact

that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.  
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@end enumerate

@iftex  
@heading END OF TERMS AND CONDITIONS  
@end iftex  
@ifinfo  
@center END OF TERMS AND CONDITIONS  
@end ifinfo

@page  
@appendixsubsec How to Apply These Terms to Your New Libraries

If you develop a new library, and you want it to be of the greatest possible use to the public, we recommend making it free software that everyone can redistribute and change. You can do so by permitting redistribution under these terms (or, alternatively, under the terms of the ordinary General Public License).

To apply these terms, attach the following notices to the library. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the ``copyright" line and a pointer to where the full notice is found.

```
@smallexample
@var{one line to give the library's name and an idea of what it does.}
Copyright (C) @var{year} @var{name of author}
```

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You should have received a copy of the GNU Lesser General Public License along with this library; if not, write to the Free Software Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301, USA.

```
@end smallexample
```

Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a ``copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

```
@smallexample
Yoyodyne, Inc., hereby disclaims all copyright interest in the library
`Frob' (a library for tweaking knobs) written by James Random Hacker.
```

```
@var{signature of Ty Coon}, 1 April 1990
Ty Coon, President of Vice
@end smallexample
```

That's all there is to it!

(This file is under construction.) -\*- text -\*-

If you've contributed to gas and your name isn't listed here, it is not meant as a slight. I just don't know about it. Email me, nickc@redhat.com and I'll correct the situation.

This file will eventually be deleted: The general info will go into the documentation, and info on specific files will go into an AUTHORS file, as requested by the FSF.

+++++

Dean Elsner wrote the original gas for vax. [more details?]

Jay Fenlason maintained gas for a while, adding support for gdb-specific debug information and the 68k series machines, most of the preprocessing pass, and extensive changes in messages.c, input-file.c, write.c.

K. Richard Pixley maintained gas for a while, adding various enhancements and many bug fixes, including merging support for several processors, breaking gas up to handle multiple object file format backends (including heavy rewrite, testing, an integration of the coff and b.out backends), adding configuration including heavy testing and verification of cross assemblers and file splits and renaming, converted gas to strictly ansi C including full prototypes, added support for m680[34]0 & cpu32, considerable work on i960 including a coff port (including considerable amounts of reverse engineering), a sparc opcode file rewrite, decstation, rs6000, and hp300hpux host ports, updated "know" assertions and made them work, much other reorganization, cleanup, and lint.

Ken Raeburn wrote the high-level BFD interface code to replace most of the code in format-specific I/O modules.

The original Vax-VMS support was contributed by David L. Kashtan. Eric Youngdale and Pat Rankin have done much work with it since.

The Intel 80386 machine description was written by Eliot Dresselhaus.

Minh Tran-Le at IntelliCorp contributed some AIX 386 support.

The Motorola 88k machine description was contributed by Devon Bowen of Buffalo University and Torbjorn Granlund of the Swedish Institute of Computer Science.

Keith

Knowles at the Open Software Foundation wrote the original MIPS back end (tc-mips.c, tc-mips.h), and contributed Rose format support that hasn't been merged in yet. Ralph Campbell worked with the MIPS code to support a.out format.

Support for the Zilog Z8k and Hitachi H8/300, H8/500 and SH processors (tc-z8k, tc-h8300, tc-h8500, tc-sh), and IEEE 695 object file format (obj-ieee), was written by Steve Chamberlain of Cygnus Solutions. Steve also modified the COFF back end (obj-coffbfd) to use BFD for some low-level operations, for use with the Hitachi, 29k and Zilog targets.

John Gilmore built the AMD 29000 support, added .include support, and simplified the configuration of which versions accept which pseudo-ops. He updated the 68k machine description so that Motorola's opcodes always produced fixed-size instructions (e.g. jsr), while synthetic instructions remained shrinkable (jbsr). John fixed many bugs, including true tested cross-compilation support, and one bug in relaxation that took a week and required the proverbial one-bit fix.

Ian Lance Taylor of Cygnus Solutions merged the Motorola and MIT syntaxes for the 68k, completed support for some COFF targets (68k, i386 SVR3, and SCO Unix), wrote the ECOFF support based on Michael Meissner's mips-tfile program, wrote the PowerPC and RS/6000 support, and made a few other minor patches. He handled the binutils releases for versions 2.7 through 2.9.

David Edelsohn contributed fixes for the PowerPC and AIX support.

Steve Chamberlain made gas able to generate listings.

Support for the HP9000/300 was contributed by Glenn Engel of HP.

Support for ELF format files has been worked on by Mark Eichin of Cygnus Solutions (original, incomplete implementation), Pete Hoogenboom at the University of Utah (HPPA mainly), Michael Meissner of the Open Software Foundation (i386 mainly), and Ken Raeburn of Cygnus Solutions (sparc, initial 64-bit support).

Several engineers at Cygnus Solutions have also provided many small bug fixes and configuration enhancements.

The initial Alpha support was contributed by Carnegie-Mellon University. Additional work was done by Ken Raeburn of Cygnus Solutions. Richard Henderson then rewrote much of the Alpha support.

Ian Dall updated the support code for the National Semiconductor 32000 series, and added support for Mach 3 and NetBSD running on the PC532.

Klaus Kaempf ported the assembler and the binutils to openVMS/Alpha.

Steve Haworth contributed the support for the Texas Instruction c30 (tms320c30).

H.J. Lu has contributed many patches and much testing.

Alan Modra reworked much of the i386 backend, improving the error checking, updating the code, and improving the 16 bit support, using patches from the work of Martynas Kunigelis and H.J. Lu.

Many others have contributed large or small bugfixes and enhancements. If you've contributed significant work and are not mentioned on this list, and want to be, let us know. Some of the history has been lost; we aren't intentionally leaving anyone out.

## 1.192 libnsl 2.12

### 1.192.1 Available under license :

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Version 2.1, February 1999

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[This is the first released version of the Lesser GPL. It also counts  
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the version number 2.1.]

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To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

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For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

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## 1.193 iputils 20071127-17.el6\_4

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\*

/opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/traceroute6.c

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\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/doc/iputils.db

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\*

/opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/tftpsubs.c

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<refentry id="tftpd">

<refmeta>

<refentrytitle>tftpd</refentrytitle>

<manvolnum>8</manvolnum>

<refmiscinfo>iputils-&snapshot;</refmiscinfo>

</refmeta>

<refnamediv>

<refname>tftpd</refname>

<refpurpose>Trivial File Transfer Protocol server</refpurpose>

</refnamediv>

<refsynopsisdiv>

<cmdsynopsis>

<command>tftpd</command>

<arg choice="req"><replaceable/directory/</arg>

</cmdsynopsis>

</refsynopsisdiv>

<refsect1><title>DESCRIPTION</title>

<para>

<command/tftpd/ is a server which supports the DARPA Trivial File Transfer Protocol ([RFC1350](ftp://ftp.isi.edu/in-notes/rfc1350.txt)).

The TFTP server is started by [inetd](#) [manvolnum/8/](#).

</para>

<para>

<replaceable/directory/ is required argument; if it is not given <command/tftpd/ aborts. This path is prepended to any file name requested via TFTP protocol, effectively chrooting <command/tftpd/ to this directory.

File

names are validated not to escape out of this directory, however administrator may configure such escape using symbolic links.

</para>

<para>

It is in difference of variants of <command/tftpd/ usually distributed with unix-like systems, which take a list of directories and match file names to start from one of given prefixes or to some random default, when no arguments were given. There are two reasons not to behave in this way: first, it is inconvenient, clients are not expected to know something about layout of filesystem on server host. And second, TFTP protocol is not a tool for browsing of server's filesystem, it is just an agent allowing to boot dumb clients.

</para>

<para>

In the case when <command/tftpd/ is used together with [rarpd](#), [rarpd](#) [manvolnum/8/](#), tftp directories in these services should coincide and it is expected that each client booted via TFTP has boot image corresponding its IP address with

an architecture suffix following Sun Microsystems conventions. See

[rarpd](#) [manvolnum/8/](#) [rarpd](#) [manvolnum/8/](#) for more details.

</para>

</refsect1>

<refsect1><title>SECURITY</title>

<para>

TFTP protocol does not provide any authentication.

Due to this capital flaw `<command/tftpd/` is not able to restrict access to files and will allow only publically readable files to be accessed. Files may be written only if they already exist and are publically writable.

`</para>`

`<para>`

Impact is evident, directory exported via TFTP `<emphasis/must not/` contain sensitive information of any kind, everyone is allowed to read it as soon as a client is allowed. Boot images do not contain such information as rule, however you should think twice before publishing f.e. Cisco IOS config files via TFTP, they contain `<emphasis/unencrypted/` passwords and may contain some information about the network, which you were not going to make public.

`</para>`

`<para>`

The

`<command/tftpd/` server should be executed by `<command/inetd/` with dropped root privileges, namely with a user ID giving minimal access to files published in tftp directory. If it is executed as superuser occasionally, `<command/tftpd/` drops its UID and GID to 65534, which is most likely not the thing which you expect.

However, this is not very essential; remember, only files accessible for everyone can be read or written via TFTP.

`</para>`

`</refsect1>`

`<refsect1><title>SEE ALSO</title>`

`<para>`

`<link linkend="rarpd">`

`<citerefentry><refentrytitle/rarpd/<manvolnum/8/</citerefentry></link>`,

`<citerefentry><refentrytitle/tftp/<manvolnum/1/</citerefentry>`,

`<citerefentry><refentrytitle/inetd/<manvolnum/8/</citerefentry>`.

`</para>`

`</refsect1>`

`<refsect1><title>HISTORY</title>`

`<para>`

The `<command/tftpd/` command appeared in 4.2BSD. The source in `iputils` is cleaned up both syntactically (ANSIized) and semantically (UDP socket IO).

`</para>`

`<para>`

It is distributed with `iputils` mostly as good demo of an interesting feature

(`<constant/MSG_CONFIRM/`) allowing to boot long images by dumb clients

not answering ARP requests until they are finally booted.  
However, this is full functional and can be used in production.

</para>  
</refsect1>

<refsect1><title>AVAILABILITY</title>

<para>  
<command/tftpd/ is part of <filename/iputils/ package  
and the latest versions are available in source form at  
<ulink url="http://www.skbuff.net/iputils/iputils-current.tar.bz2">  
http://www.skbuff.net/iputils/iputils-current.tar.bz2</ulink>.  
</para>  
</refsect1>

<![IGNORE[

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<para>  
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distribution of Linux kernel of version 2.4.

</literallayout>  
</literallayout>  
</para>  
</refsect1>  
]]>

</refentry>

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/doc/tftpd.sgml

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<refentry id="arping">

```
<refmeta>
<refentrytitle>arping</refentrytitle>
<manvolnum>8</manvolnum>
<refmiscinfo>iputils-&snapshot;</refmiscinfo>
</refmeta>
```

```
<refnamediv>
<refname>arping</refname>
<refpurpose>send ARP REQUEST to a neighbour host</refpurpose>
</refnamediv>
```

```
<refsynopsisdiv>
<cmdsynopsis>
<command>arping</command>
<arg choice="opt"><option>-AbDfhqUV</option></arg>
<arg choice="opt">-c <replaceable/count/</arg>
<arg choice="opt">-w <replaceable/deadline/</arg>
<arg choice="opt">-s <replaceable/source/</arg>
<arg choice="req">-I <replaceable/interface/</arg>
<arg choice="req"><replaceable/destination/</arg>
</cmdsynopsis>
</refsynopsisdiv>
```

```
<refsect1><title>DESCRIPTION</title>
<para>
Ping <replaceable/destination/ on device <replaceable/interface/ by ARP packets,
using source address <replaceable/source/.
</para>
</refsect1>
```

```
<refsect1><title>OPTIONS</title>
```

```
<variablelist>
```

```
<varlistentry>
<term><option>-A</term>
<listitem><para>
The same as <option>-U/, but ARP REPLY packets used instead
of ARP REQUEST.
</para></listitem>
</varlistentry>
```

```
<varlistentry>
<term><option>-b</option></term>
<listitem><para>
Send only MAC level broadcasts. Normally <command>arping/ starts
```

from sending broadcast, and switch to unicast after reply received.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option><anchor id="arping.count">-c <replaceable/count/</option></term>

<listitem><para>

Stop after sending <replaceable/count/ ARP REQUEST packets. With

<link linkend="arping.deadline"><replaceable/timeout/</link>

option, <command/arping/ waits for

<replaceable/count/ ARP REPLY packets, until the timeout expires.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-D</term>

<listitem><para>

Duplicate address detection mode (DAD). See

<ulink url="ftp://ftp.isi.edu/in-notes/rfc2131.txt">RFC2131, 4.4.1</ulink>.

Returns 0, if DAD succeeded i.e. no replies

are received

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-f</option></term>

<listitem><para>

Finish after the first reply confirming that target is alive.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option><anchor id="opt.interface">-I <replaceable/interface/</option></term>

<listitem><para>

Name of network device where to send ARP REQUEST packets. This option is required.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-h</option></term>

<listitem><para>

Print help page and exit.

</para></listitem>

</varlistentry>



<varlistentry>  
<term><option>-q/</term>  
<listitem><para>  
Quiet output. Nothing is displayed.  
</para></listitem>  
</varlistentry>

<varlistentry>  
<term><option><anchor id="opt.source">-s <replaceable>/source/</option></term>  
<listitem><para>  
IP source address to use in ARP packets.  
If this option is absent, source address is:  
<itemizedlist>  
<listitem><para>  
In DAD mode (with option  
<option>-D/) set to 0.0.0.0.  
</para></listitem>  
<listitem><para>  
In Unsolicited ARP mode (with options <option>-U/ or <option>-A/) set to <replaceable>/destination/.  
</para></listitem>  
<listitem><para>  
Otherwise, it is calculated from routing tables.  
</para></listitem>  
</itemizedlist>  
</para></listitem>  
</varlistentry>

<varlistentry>  
<term><option>-U/</term>  
<listitem><para>  
Unsolicited ARP mode to update neighbours' ARP caches.  
No replies are expected.  
</para></listitem>  
</varlistentry>

<varlistentry>  
<term><option>-V</option></term>  
<listitem><para>  
Print version of the program and exit.  
</para></listitem>  
</varlistentry>

<varlistentry>  
<term><option><anchor id="arping.deadline">-w <replaceable>/deadline/</option></term>  
<listitem><para>

Specify a timeout, in seconds, before  
<command/arping/  
exits regardless of how many  
packets have been sent or received. In this case  
<command/arping/  
does not stop after  
<link linkend="arping.count"><replaceable/count/</link>  
packet  
are sent, it waits either for  
<link linkend="arping.deadline"><replaceable/deadline/</link>  
expire or until  
<link linkend="arping.count"><replaceable/count/</link>  
probes are answered.

</para></listitem>  
</varlistentry>  
</variablelist>  
</refsect1>

<refsect1><title>SEE ALSO</title>

<para>  
<link linkend="ping">  
<citerefentry><refentrytitle/ping/<manvolnum/8/</citerefentry></link>,  
<link linkend="clockdiff">  
<citerefentry><refentrytitle/clockdiff/<manvolnum/8/</citerefentry></link>,  
<link linkend="tracepath">  
<citerefentry><refentrytitle/tracepath/<manvolnum/8/</citerefentry></link>.  
</para>  
</refsect1>

<refsect1><title>AUTHOR</title>

<para>  
<command/arping/ was written by  
<ulink url="mailto:kuznet@ms2.inr.ac.ru">Alexey Kuznetsov  
&lt;kuznet@ms2.inr.ac.ru&gt;</ulink>.  
It is now maintained by  
<ulink url="mailto:yoshfuji@skbuff.net">YOSHIFUJI Hideaki  
&lt;yoshfuji@skbuff.net&gt;</ulink>.  
</para>  
</refsect1>

<refsect1><title>SECURITY</title>

<para>  
<command/arping/  
requires <constant/CAP\_NET\_RAWIO/ capability  
to be executed. It is not recommended to be used as set-uid root,  
because it allows user to modify ARP caches of neighbour hosts.  
</para>  
</refsect1>

<refsect1><title>AVAILABILITY</title>

<para>

<command/arping/ is part of <filename/iputils/ package and the latest versions are available in source form at

<ulink url="http://www.skbuff.net/iputils/iputils-current.tar.bz2">

http://www.skbuff.net/iputils/iputils-current.tar.bz2</ulink>.

</para>

</refsect1>

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<para>

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</literallayout>

</para>

</refsect1>

]]>

</refentry>

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/doc/arping.sgml

No license file was found, but licenses were detected in source scan.

<refentry id="traceroute6">

<refmeta>

<refentrytitle>traceroute6</refentrytitle>

<manvolnum>8</manvolnum>

<refmiscinfo>iputils-&snapshot;</refmiscinfo>

</refmeta>

<refnamediv>  
<refname>traceroute6</refname>  
<refpurpose>traces path to a network host</refpurpose>  
</refnamediv>

<refsynopsisdiv>  
<cmdsynopsis>  
<command>traceroute6</command>  
<arg choice="opt"><option>-dnrvV</option></arg>  
<arg choice="opt">-i <replaceable/interface/></arg>  
<arg choice="opt">-m <replaceable/max\_ttl/></arg>  
<arg choice="opt">-p <replaceable/port/></arg>  
<arg choice="opt">-q <replaceable/max\_probes/></arg>  
<arg choice="opt">-s <replaceable/source/></arg>  
<arg choice="opt">-w <replaceable/wait time/></arg>  
<arg choice="req"><replaceable/destination/></arg>  
<arg choice="opt"><replaceable/size/></arg>  
</cmdsynopsis>  
</refsynopsisdiv>

<refsect1><title>DESCRIPTION</title>

<para>

Description can be found in

<citerefentry><refentrytitle/traceroute/><manvolnum/8/></citerefentry>,&br/>all

the references to IP replaced to IPv6. It is needless to copy  
the description from there.

</para>

</refsect1>

<refsect1><title>SEE ALSO</title>

<para>

<citerefentry><refentrytitle/traceroute/><manvolnum/8/></citerefentry>,&br/><citerefentry><refentrytitle/tracepath/><manvolnum/8/></citerefentry>,&br/><citerefentry><refentrytitle/ping/><manvolnum/8/></citerefentry>.

</para>

</refsect1>

</refsect1>

<refsect1><title>HISTORY</title>

<para>

This program has long history. Author of <command/traceroute/>  
is Van Jacobson and it first appeared in 1988. This clone is  
based on a port of <command/traceroute/> to IPv6 published  
in NRL IPv6 distribution in 1996. In turn, it was ported  
to Linux by Pedro Roque. After this it was kept in sync by  
<ulink url="mailto:kuznet@ms2.inr.ac.ru">Alexey Kuznetsov  
&lt;kuznet@ms2.inr.ac.ru&gt;</ulink>. And eventually entered  
<command/iputils/> package.

</para>  
</refsect1>

<refsect1><title>SECURITY</title>  
<para>  
<command/tracpath6/ requires <constant/CAP\_NET\_RAWIO/  
capability  
to be executed. It is safe to be used as set-uid root.  
</para>  
</refsect1>

<refsect1><title>AVAILABILITY</title>  
<para>  
<command/traceroute6/ is part of <filename/iputils/ package  
and the latest versions are available in source form at  
<ulink url="http://www.skbuff.net/iputils/iputils-current.tar.bz2">  
http://www.skbuff.net/iputils/iputils-current.tar.bz2</ulink>.  
</para>  
</refsect1>

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</literallayout>  
</para>  
</refsect1>  
]]>

</refentry>

Found  
in path(s):  
\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/doc/traceroute6.sgml

No license file was found, but licenses were detected in source scan.

<refentry id="clockdiff">

<refmeta>

<refentrytitle>clockdiff</refentrytitle>

<manvolnum>8</manvolnum>

<refmiscinfo>iputils-&snapshot;</refmiscinfo>

</refmeta>

<refnamediv>

<refname>clockdiff</refname>

<refpurpose>measure clock difference between hosts</refpurpose>

</refnamediv>

<refsynopsisdiv>

<cmdsynopsis>

<command>clockdiff</command>

<arg choice="opt"><option>-o</option></arg>

<arg choice="opt"><option>-o1</option></arg>

<arg choice="req"><replaceable/destination/</arg>

</cmdsynopsis>

</refsynopsisdiv>

<refsect1><title>DESCRIPTION</title>

<para>

<command/clockdiff/ Measures clock difference between us and

<replaceable/destination/ with 1 msec resolution using ICMP TIMESTAMP

<link linkend="clockdiff.icmp-timestamp">[2]</link>

packets or, optionally, IP TIMESTAMP option

<link linkend="clockdiff.ip-timestamp">[3]</link>

option added to ICMP ECHO.

<link linkend="clockdiff.icmp-echo">[1]</link>

</para>

</refsect1>

<refsect1><title>OPTIONS</title>

<variablelist>

<varlistentry>

<term><option>-o</term>

<listitem><para>

Use IP TIMESTAMP with ICMP ECHO instead of ICMP TIMESTAMP messages. It is useful with some destinations, which do not support ICMP TIMESTAMP (f.e. Solaris &lt;2.4).

</para></listitem>

</varlistentry>

```
<varlistentry>
  <term><option/-o1/</term>
  <listitem><para>
    Slightly different form of <option/-o/, namely it uses three-term
    IP TIMESTAMP with prespecified hop addresses instead of four term one.
    What flavor works better depends on target host. Particularly,
    <option/-o/ is better for Linux.
  </para></listitem>
</varlistentry>
```

```
</variablelist>
```

```
</refsect1>
```

```
<refsect1><title>WARNINGS</title>
```

```
<itemizedlist>
```

```
<listitem><para>
```

Some nodes (Cisco) use non-standard timestamps, which is allowed by RFC, but makes timestamps mostly useless.

```
</para></listitem>
```

```
<listitem><para>
```

Some nodes generate messed timestamps (Solaris&gt;2.4), when run <command/xntpd/. Seems, its IP stack uses a corrupted clock source, which is synchronized to time-of-day clock periodically and jumps randomly making timestamps mostly useless. Good news is that you can use NTP in this case, which is even better.

```
</para></listitem>
```

```
<listitem><para>
```

<command/clockdiff/ shows difference in time modulo 24 days.

```
</para></listitem>
```

```
</itemizedlist>
```

```
</refsect1>
```

```
<refsect1><title>SEE ALSO</title>
```

```
<para>
```

```
<link linkend="ping">
```

```
<citerefentry><refentrytitle/ping/<manvolnum/8/</citerefentry></link>,</refsect1>
```

```
<link linkend="arping">
```

```
<citerefentry><refentrytitle/arping/<manvolnum/8/</citerefentry></link>,</refsect1>
```

```
<link linkend="tracepath">
```

```
<citerefentry><refentrytitle/tracepath/<manvolnum/8/</citerefentry></link>.</refsect1>
```

```
</para>
```

```
</refsect1>
```

```
<refsect1><title>REFERENCES</title>
```

<para>  
[1] <anchor id="clockdiff.icmp-echo">ICMP ECHO,  
<ulink url="ftp://ftp.isi.edu/in-notes/rfc792.txt">  
RFC0792, page 14</ulink>.  
</para>  
<para>  
[2] <anchor id="clockdiff.icmp-timestamp">ICMP TIMESTAMP,  
<ulink url="ftp://ftp.isi.edu/in-notes/rfc792.txt">  
RFC0792,  
page 16</ulink>.  
</para>  
<para>  
[3] <anchor id="clockdiff.ip-timestamp">IP TIMESTAMP option,  
<ulink url="ftp://ftp.isi.edu/in-notes/rfc791.txt">  
RFC0791, 3.1, page 16</ulink>.  
</para>  
</refsect1>

<refsect1><title>AUTHOR</title>

<para>  
<command/clockdiff/ was compiled by  
<ulink url="mailto:kuznet@ms2.inr.ac.ru">Alexey Kuznetsov  
&lt;kuznet@ms2.inr.ac.ru&gt;</ulink>. It was based on code borrowed  
from BSD <command/timed/ daemon.  
It is now maintained by  
<ulink url="mailto:yoshfuji@skbuff.net">YOSHIFUJI Hideaki  
&lt;yoshfuji@skbuff.net&gt;</ulink>.  
</para>  
</refsect1>

<refsect1><title>SECURITY</title>

<para>  
<command/clockdiff/ requires <constant/CAP\_NET\_RAWIO/ capability  
to be executed. It is safe to be used as set-uid root.  
</para>  
</refsect1>

<refsect1><title>AVAILABILITY</title>

<para>  
<command/clockdiff/ is part of <filename/iputils/ package  
and the latest versions are available in source form at  
<ulink url="http://www.skbuff.net/iputils/iputils-current.tar.bz2">  
http://www.skbuff.net/iputils/iputils-current.tar.bz2</ulink>.  
</para>  
</refsect1>

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</literallayout>  
</para>  
</refsect1>  
]]>

</refentry>

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/doc/clockdiff.sgml  
No license file was found, but licenses were detected in source scan.

<refentry id="rarpd">

<refmeta>  
<refentrytitle>rarpd</refentrytitle>  
<manvolnum>8</manvolnum>  
<refmiscinfo>iputils-&snapshot;</refmiscinfo>  
</refmeta>

<refnamediv>  
<refname>rarpd</refname>  
<refpurpose>answer RARP REQUESTs</refpurpose>  
</refnamediv>

<refsynopsisdiv>  
<cmdsynopsis>  
<command>arping</command>  
<arg choice="opt"><option>-aAvde</option></arg>  
<arg choice="opt">-b <replaceable/bootdir/</arg>  
<arg choice="opt"><replaceable/interface/</arg>  
</cmdsynopsis>

</refsynopsisdiv>

<refsect1><title>DESCRIPTION</title>

<para>

Listens

<ulink url="ftp://ftp.isi.edu/in-notes/rfc903.txt">RARP</ulink>

requests from clients. Provided MAC address of client is found in <filename>/etc/ethers</filename> database and obtained host name is resolvable to an IP address appropriate for attached network, <command/rarpd/ answers to client with RARPD reply carrying an IP address.

</para>

<para>

To allow multiple boot servers on the network

<command/rarpd/

optionally checks for presence Sun-like bootable image in TFTP directory.

It should have form <userinput/Hexadecimal\_IP.ARCH/, f.e. to load

sparc 193.233.7.98 <filename/C1E90762.SUN4M/ is linked to

an image appropriate for SUM4M in directory <filename>/etc/tftpboot</filename>.

</para>

</refsect1>

<refsect1><title>WARNING</title>

<para>

This facility is deeply obsoleted by

<ulink url="ftp://ftp.isi.edu/in-notes/rfc951.txt">BOOTP</ulink>

and later

<ulink url="ftp://ftp.isi.edu/in-notes/rfc2131.txt">DHCP</ulink> protocols.

However, some clients really still need this to boot.

</para>

</refsect1>

<refsect1><title>OPTIONS</title>

<variablelist>

<varlistentry>

<term><option/-a/</term>

<listitem><para>

Listen on all the interfaces. Currently it is an internal option, its function is overridden with <replaceable/interface/ argument. It should not be used.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option/-A/</term>

<listitem><para>

Listen

not only RARP but also ARP messages, some rare clients use ARP by some unknown reason.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-v</option></term>

<listitem><para>

Be verbose.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-d</option></term>

<listitem><para>

Debug mode. Do not go to background.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-e</option></term>

<listitem><para>

Do not check for presence of a boot image, reply if MAC address resolves to a valid IP address using <filename>/etc/ethers</filename> database and DNS.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-b <replaceable>bootdir</replaceable></option></term>

<listitem><para>

TFTP boot directory. Default is <filename>/etc/tftpboot</filename>

</para></listitem>

</varlistentry>

</variablelist>

</refsect1>

<refsect1><title>SEE ALSO</title>

<para>

<link linkend="arping">

<citerefentry><refentrytitle>arping</refentrytitle></citerefentry></link>,&p>

<link

linkend="tftpd">

<citerefentry><refentrytitle>tftpd</refentrytitle></citerefentry></link>.

</para>

</refsect1>

<refsect1><title>AUTHOR</title>

<para>

<command/rarpd/ was written by

<ulink url="mailto:kuznet@ms2.inr.ac.ru">Alexey Kuznetsov  
&lt;kuznet@ms2.inr.ac.ru&gt;</ulink>.

It is now maintained by

<ulink url="mailto:yoshfuji@skbuff.net">YOSHIFUJI Hideaki  
&lt;yoshfuji@skbuff.net&gt;</ulink>.

</para>

</refsect1>

<refsect1><title>SECURITY</title>

<para>

<command/rarpd/ requires <constant/CAP\_NET\_RAWIO/ capability to listen and send RARP and ARP packets. It also needs <constant/CAP\_NET\_ADMIN/ to give to kernel hint for ARP resolution; this is not strictly required, but some (most of, to be more exact) clients are so badly broken that are not able to answer ARP before they are finally booted. This is not wonderful taking into account that clients using RARPD in 2002 are all unsupported relic creatures of 90's and even earlier.

</para>

</refsect1>

<refsect1><title>AVAILABILITY</title>

<para>

<command/rarpd/

is part of <filename/iputils/ package

and the latest versions are available in source form at

<ulink url="http://www.skbuff.net/iputils/iputils-current.tar.bz2">  
http://www.skbuff.net/iputils/iputils-current.tar.bz2</ulink>.

</para>

</refsect1>

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</literallayout>

</para>

</refsect1>

]]>

</refentry>

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/doc/rarpd.shtml

No license file was found, but licenses were detected in source scan.

/\*

\* arping.c

\*

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\*

\* Authors: Alexey Kuznetsov, <kuznet@ms2.inr.ac.ru>

\*/

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/arping.c

No license file was found, but licenses were detected in source scan.

<refentry id="tracepath">

<refmeta>

<refentrytitle>tracepath</refentrytitle>

<manvolnum>8</manvolnum>

<refmiscinfo>iputils-&snapshot;</refmiscinfo>

</refmeta>

<refnamediv>

<refname>tracepath, tracepath6</refname>

<refpurpose>

traces path to a network host discovering MTU along this path</refpurpose>

</refnamediv>

<refsynopsisdiv>

<cmdsynopsis>

```
<command>tracpath</command>
<arg choice="opt">-n</arg>
<arg choice="opt">-l <replaceable/pkflen/</arg>
<arg choice="req"><replaceable/destination/</arg>
<arg choice="opt"><replaceable/port/</arg>
</cmdsynopsis>
</refsynopsisdiv>
```

```
<refsect1><title>DESCRIPTION</title>
```

```
<para>
```

It traces path to <replaceable/destination/ discovering MTU along this path.

It uses UDP port <replaceable/port/ or some random port.

It is similar to <command/traceroute/, only does not require superuser privileges and has no fancy options.

```
</para>
```

```
<para>
```

<command/tracpath6/ is good replacement for

<command/traceroute6/

and classic example of application of Linux error queues.

The situation with <command/tracpath/ is worse, because commercial IP routers do not return enough information in icmp error messages.

Probably, it will change, when they will be updated.

For now it uses Van Jacobson's trick, sweeping a range of UDP ports to maintain trace history.

```
</para>
```

```
</refsect1>
```

```
<refsect1><title>OPTIONS</title>
```

```
<variablelist>
```

```
<varlistentry>
```

```
<term><option/-n/</term>
```

```
<listitem><para>
```

Do not look up host names. Only print IP addresses numerically.

```
</para></listitem>
```

```
</varlistentry>
```

```
<varlistentry>
```

```
<term><option/-l/</term>
```

```
<listitem><para>
```

Sets the initial packet length to <replaceable/pkflen/ instead of

65536 for <command/tracpath/ or 128000 for <command/tracpath6/.

```
</para></listitem>
```

```
</varlistentry>
```

```
</variablelist>
```

```
</refsect1>
```

```

<refsect1><title>OUTPUT</title>
<para>
<literallayout>
root@mops:~ # tracepath6 3ffe:2400:0:109::2
1?: [LOCALHOST]
    pmtu 1500
1: dust.inr.ac.ru      0.411ms
2: dust.inr.ac.ru    asymm 1  0.390ms pmtu 1480
2: 3ffe:2400:0:109::2  463.514ms reached
    Resume: pmtu 1480 hops 2 back 2
</literallayout>
</para>

```

The first column shows <literal/TTL/ of the probe, followed by colon. Usually value of <literal/TTL/ is obtained from reply from network, but sometimes reply does not contain necessary information and we have to guess it. In this case the number is followed by ?.

The second column shows the network hop, which replied to the probe. It is either address of router or word <literal/[LOCALHOST]/, if the probe was not sent to the network.

The rest of line shows miscellaneous information about path to the corresponding network hop. As rule it contains value of RTT. Additionally, it can show Path MTU, when it changes. If the path is asymmetric or the probe finishes before it reach prescribed hop, difference between number of hops in forward and backward direction is shown following keyword <literal/async/. This information is not reliable. F.e. the third line shows asymmetry of 1, it is because the first probe with TTL of 2 was rejected at the first hop due to Path MTU Discovery.

The last line summarizes information about all the path to the destination, it shows detected Path MTU, amount of hops to the destination and our guess about amount of hops from the destination to us, which can be different when the path is asymmetric.

```

</refsect1>

```

```
<refsect1><title>SEE ALSO</title>
<para>
<citerefentry><refentrytitle/traceroute/<manvolnum/8/</citerefentry>,
<link linkend="traceroute6">
<citerefentry><refentrytitle/traceroute6/<manvolnum/8/</citerefentry></link>,
<link linkend="ping">
<citerefentry><refentrytitle/ping/<manvolnum/8/</citerefentry></link>.
</para>
</refsect1>
```

```
<refsect1><title>AUTHOR</title>
<para>
<command/tracepath/ was written by
<ulink url="mailto:kuznet@ms2.inr.ac.ru">Alexey
Kuznetsov
&lt;kuznet@ms2.inr.ac.ru&gt;</ulink>.
</para>
</refsect1>
```

```
<refsect1><title>SECURITY</title>
<para>
No security issues.
</para>
<para>
This lapidary deserves to be elaborated.
<command/tracepath/ is not a privileged program, unlike
<command/traceroute/, <command/ping/ and other beasts of this kind.
<command/tracepath/ may be executed by everyone who has some access
to network, enough to send UDP datagrams to investigated destination
using given port.
</para>
</refsect1>
```

```
<refsect1><title>AVAILABILITY</title>
<para>
<command/tracepath/ is part of <filename/iputils/ package
and the latest versions are available in source form at
<ulink url="http://www.skbuff.net/iputils/iputils-current.tar.bz2">
http://www.skbuff.net/iputils/iputils-current.tar.bz2</ulink>.
</para>
</refsect1>
```

```
<![IGNORE[
<refsect1><title>COPYING</title>
<para>
```



<literallayout>

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For more details see the file COPYING in the source distribution of Linux kernel of version 2.4.

</literallayout>

</para>

</refsect1>

]]>

</refentry>

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/doc/tracepath.shtml

No license file was found, but licenses were detected in source scan.

License: BSD

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/iputils.spec

No license file was found, but licenses were detected in source scan.

/\*

\* rarpd.c RARP daemon.

\*

\* This program is free software; you can redistribute it and/or  
\* modify it under the terms of the GNU General Public License  
\* as published by the Free Software Foundation; either version  
\* 2 of the License, or (at your option) any later version.

\*

\* Authors: Alexey Kuznetsov, <kuznet@ms2.inr.ac.ru>

\*/

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-

No license file was found, but licenses were detected in source scan.

```

<refentry id="ping">

<refmeta>
<refentrytitle>ping</refentrytitle>
<manvolnum>8</manvolnum>
<refmiscinfo>iputils-&snapshot;</refmiscinfo>
</refmeta>

<refnamediv>
<refname>ping, ping6</refname>
<refpurpose>send ICMP ECHO_REQUEST to network hosts</refpurpose>
</refnamediv>

<refsynopsisdiv>
<cmdsynopsis>
<command>ping</command>
<arg choice="opt"><option>-LRUbdfnqrvVaAB</option></arg>
<arg choice="opt">-c <replaceable/count/</arg>
<arg choice="opt">-i <replaceable/interval/</arg>
<arg choice="opt">-l <replaceable/preload/</arg>
<arg choice="opt">-p <replaceable/pattern/</arg>
<arg choice="opt">-s <replaceable/packetsize/</arg>
<arg choice="opt">-t <replaceable/ttl/</arg>
<arg choice="opt">-w <replaceable/deadline/</arg>
<arg choice="opt">-F <replaceable/flowlabel/</arg>
<arg choice="opt">-I <replaceable/interface/</arg>
<arg choice="opt">-M <replaceable/hint/</arg>
<arg choice="opt">-Q <replaceable/tos/</arg>
<arg choice="opt">-S
<replaceable/sndbuf/</arg>
<arg choice="opt">-T <replaceable/timestamp option/</arg>
<arg choice="opt">-W <replaceable/timeout/</arg>
<arg choice="opt" rep="repeat"><replaceable/hop/</arg>
<arg choice="req"><replaceable/destination/</arg>
</cmdsynopsis>
</refsynopsisdiv>

<refsect1><title>DESCRIPTION</title>
<para>
<command>ping/ uses the ICMP protocol's mandatory ECHO_REQUEST
datagram to elicit an ICMP ECHO_RESPONSE from a host or gateway.
ECHO_REQUEST datagrams ("pings") have an IP and ICMP
header, followed by a <structname/struct timeval/ and then an arbitrary
number of "pad" bytes used to fill out the packet.
</para>

```

</refsect1>

<refsect1><title>OPTIONS</title>

<variablelist>

<varlistentry>

<term><option>-a</option></term>

<listitem><para>

Audible ping.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-A</option></term>

<listitem><para>

Adaptive ping. Interpacket interval adapts to round-trip time, so that

effectively not more than one (or more, if preload

is set) unanswered probes

present in the network. Minimal interval is 200msec for not super-user.

On networks with low rtt this mode is essentially equivalent to flood mode.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-b</option></term>

<listitem><para>

Allow pingging a broadcast address.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-B</option></term>

<listitem><para>

Do not allow <command>ping/</command> to change source address of probes.

The address is bound to one selected when <command>ping/</command> starts.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option><anchor id="ping.count">-c <replaceable>/count/</option></term>

<listitem><para>

Stop after sending <replaceable>/count/</replaceable> ECHO\_REQUEST

packets. With

<link linkend="ping.deadline"><replaceable>/deadline/</link>

option, <command>ping/</command> waits for

<replaceable>/count/</replaceable> ECHO\_REPLY packets, until the timeout expires.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-d</option></term>

<listitem><para>

Set the <constant>SO\_DEBUG/</constant> option on the socket being used.

Essentially, this socket option is not used by Linux kernel.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-F <replaceable/flow label/</option></term>

</listitem></para>

Allocate and set 20 bit flow label on echo request packets.

(Only <command/ping6/). If value is zero, kernel allocates random flow label.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-f/</term>

</listitem></para>

Flood ping. For every ECHO\_REQUEST sent a period ``." is printed, while for every ECHO\_REPLY received a backspace is printed.

This provides a rapid display of how many packets are being dropped.

If interval is not given, it sets interval to zero and

outputs packets as fast as they come back or one hundred times per second, whichever is more.

Only the super-user may use this option with zero interval.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-i <replaceable/interval/</option></term>

</listitem></para>

Wait <replaceable/interval/ seconds between sending each packet.

The default is to wait for one second between each packet normally, or not to wait in flood mode. Only super-user may set interval to values less 0.2 seconds.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-I <replaceable/interface address/</option></term>

</listitem></para>

Set source address to specified interface address. Argument may be numeric IP address or name of device. When pinging IPv6 link-local address this option is required.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-l <replaceable/preload/</option></term>

</listitem></para>

If <replaceable/preload/ is specified,

<command/ping/ sends that many packets not waiting for reply.

Only the super-user may select preload more than 3.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-L/</term>

<listitem><para>

Suppress loopback of multicast packets.

This flag only applies if the ping destination is a multicast address.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-n/</term>

<listitem><para>

Numeric output only.

No attempt will be made to lookup symbolic names for host addresses.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-p <replaceable/pattern/</option></term>

<listitem><para>

You may specify up to 16 ``pad" bytes to fill out the packet you send.

This is useful for diagnosing data-dependent problems in a network.

For example, <option>-p ff</option> will cause the sent packet to be filled with all ones.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-Q <replaceable/tos/</option></term>

<listitem><para>

Set Quality of Service -related bits in ICMP datagrams.

<replaceable/tos/ can be either decimal or hex number.

Traditionally (RFC1349), these have been interpreted as: 0 for reserved (currently being redefined as congestion control), 1-4 for

Type of Service

and 5-7 for Precedence.

Possible settings for Type of Service are: minimal cost: 0x02,

reliability: 0x04, throughput: 0x08, low delay: 0x10. Multiple TOS bits should not be set simultaneously. Possible settings for

special Precedence range from priority (0x20) to net control (0xe0). You must be root (<constant/CAP\_NET\_ADMIN/ capability) to use Critical or higher precedence value. You cannot set

bit 0x01 (reserved) unless ECN has been enabled in the kernel.

In RFC2474, these fields has been redefined as 8-bit Differentiated

Services (DS), consisting of: bits 0-1 of separate data (ECN will be used, here), and bits 2-7 of Differentiated Services Codepoint (DSCP).

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-q/</term>

<listitem><para>

Quiet output.

Nothing is displayed except the summary lines at startup time and when finished.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-R</term>

<listitem><para>

Record route.

Includes

the RECORD\_ROUTE option in the ECHO\_REQUEST packet and displays the route buffer on returned packets.

Note that the IP header is only large enough for nine such routes.

Many hosts ignore or discard this option.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-r</term>

<listitem><para>

Bypass the normal routing tables and send directly to a host on an attached interface.

If the host is not on a directly-attached network, an error is returned.

This option can be used to ping a local host through an interface that has no route through it provided the option <option>-I</option> is also used.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-s <replaceable>packetsize</option></term>

<listitem><para>

Specifies the number of data bytes to be sent.

The default is 56, which translates into 64 ICMP

data bytes when combined with the 8 bytes of ICMP header data.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-S <replaceable>sndbuf</option></term>

<listitem><para>

Set socket sndbuf. If not specified, it is selected to buffer not more than one packet.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-t <replaceable>ttl</option></term>

<listitem><para>

Set the IP Time to Live.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-T <replaceable/timestamp option/></option></term>

</listitem><para>

Set special IP timestamp options.

<replaceable/timestamp option/ may be either

<replaceable/tsonly/ (only timestamps),

<replaceable/tsandaddr/ (timestamps and addresses) or

<replaceable/tsprespec host1 [host2 [host3 [host4]]]/

(timestamp prespecified hops).

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-M <replaceable/hint/></option></term>

</listitem><para>

Select Path MTU Discovery strategy.

<replaceable/hint/ may be either <replaceable/do/

(prohibit fragmentation, even local one),

<replaceable/want/ (do PMTU discovery, fragment locally when  
packet size

is large), or <replaceable/dont/ (do not set DF flag).

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-U/</term>

</listitem><para>

Print full user-to-user latency (the old behaviour). Normally

<command/ping/

prints network round trip time, which can be different

f.e. due to DNS failures.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-v/</term>

</listitem><para>

Verbose output.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-V/</term>

</listitem><para>

Show version and exit.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option><anchor id="ping.deadline">-w <replaceable/deadline/></option></term>

</listitem><para>

Specify a timeout, in seconds, before

<command/ping/

exits regardless of how many

packets have been sent or received. In this case

<command/ping/

does not stop after

<link linkend="ping.count"><replaceable/count/</link>

packet are sent, it waits either for

<link linkend="ping.deadline"><replaceable/deadline/</link>

expire

or until

<link linkend="ping.count"><replaceable/count/</link>

probes are answered or for some error notification from network.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>-W <replaceable/timeout/</option></term>

<listitem><para>

Time to wait for a response, in seconds. The option affects only timeout in absense of any responses, otherwise <command/ping/ waits for two RTTs.

</para></listitem>

</varlistentry>

</variablelist>

<para>

When using <command/ping/ for fault isolation, it should first be run on the local host, to verify that the local network interface is up and running. Then, hosts and gateways further and further away should be ``pinged''. Round-trip times and packet loss statistics are computed. If duplicate packets are received, they are not included in the packet loss calculation, although the round trip time of these packets is used in calculating the minimum/average/maximum round-trip time numbers.

When the specified number of packets have been sent (and received) or if the program is terminated with a

<constant/SIGINT/, a brief summary is displayed. Shorter current statistics can be obtained without termination of process with signal

<constant/SIGQUIT/.

</para>

<para>

If <command/ping/ does not receive any reply packets at all it will exit with code 1. If a packet

<link linkend="ping.count"><replaceable/count/</link>

and

<link linkend="ping.deadline"><replaceable/deadline/</link>

are both specified, and fewer than

<link linkend="ping.count"><replaceable/count/</link>

packets are received by the time the

<link linkend="ping.deadline"><replaceable/deadline/</link>

has arrived, it will also exit with code 1.



On other error it exits with code 2. Otherwise it exits with code 0. This makes it possible to use the exit code to see if a host is alive or not.

This program is intended for use in network testing, measurement and management. Because of the load it can impose on the network, it is unwise to use `ping` during normal operations or from automated scripts.

#### ICMP PACKET DETAILS

An IP header without options is 20 bytes. An ICMP ECHO\_REQUEST packet contains an additional 8 bytes worth of ICMP header followed by an arbitrary amount of data. When a `packetsize` is given, this indicated the size of this extra piece of data (the default is 56). Thus the amount of data received inside of an IP packet of type ICMP ECHO\_REPLY will always be 8 bytes more than the requested data space (the ICMP header).

If the data space is at least of size of `struct timeval` `ping` uses the beginning bytes of this space to include a timestamp which it uses in the computation of round trip times. If the data space is shorter, no round trip times are given.

#### DUPLICATE AND DAMAGED PACKETS

`ping` will report duplicate and damaged packets. Duplicate packets should never occur, and seem to be caused by inappropriate link-level retransmissions. Duplicates may occur in many situations and are rarely (if ever) a good sign, although the presence of low levels of duplicates may not always be cause for alarm.

</para>

<para>

Damaged packets are obviously serious cause for alarm and often indicate broken hardware somewhere in the <command/ping/ packet's path (in the network or in the hosts).

</para>

</refsect1>

<refsect1><title>TRYING DIFFERENT DATA PATTERNS</title>

<para>

The (inter)network layer should never treat packets differently depending on the data contained in the data portion.

Unfortunately, data-dependent problems have been known to sneak into networks and remain undetected for long periods of time.

In many cases the particular pattern that will have problems is something that doesn't have sufficient ``transitions'', such as all ones or all zeros, or a pattern right at the edge, such as almost all zeros.

It isn't necessarily enough to specify a data pattern of all zeros (for example) on the command line because the pattern that is of interest is at the data link level, and the relationship between what you type and what the controllers transmit can be complicated.

</para>

<para>

This means that if you have a data-dependent problem you will probably have to do a lot of testing to find it.

If you are lucky, you may manage to find a file that either can't be sent across your network or that takes much longer to transfer than other similar length files.

You can then examine this file for repeated patterns that you can test using the <option/-p/ option of <command/ping/.

</para>

</refsect1>

<refsect1><title>TTL DETAILS</title>

<para>

The TTL value of an IP packet represents the maximum number of IP routers that the packet can go through before being thrown away.

In current practice you can expect each router in the Internet to decrement the TTL field by exactly one.

</para>

<para>

The TCP/IP specification states that the TTL field for TCP packets should be set to 60, but many systems use smaller values (4.3 BSD uses 30, 4.2 used 15).

</para>

<para>

The maximum possible value of this field is 255, and most Unix systems set the TTL field of ICMP ECHO\_REQUEST packets to 255.

This is why you will find you can ``ping" some hosts, but not reach them with

<citerefentry><refentrytitle/telnet/<manvolnum/1/</citerefentry>

or

<citerefentry><refentrytitle/ftp/<manvolnum/1/</citerefentry>.

</para>

<para>

In normal operation ping prints the ttl value from the packet it receives.

When a remote system receives a ping packet, it can do one of three things with the TTL field in its response:

</para>

<itemizedlist>

<listitem><para>

Not change it; this is what Berkeley Unix systems did before the 4.3BSD Tahoe release. In this case the TTL value in the received packet will be 255 minus the number of routers in the round-trip path.

</para></listitem>

<listitem><para>

Set it to 255; this is what current Berkeley Unix systems do.

In this case the TTL value in the received packet will be 255 minus the number of routers in the path <emphasis/from/

the remote system <emphasis/to/ the <command/ping/ing host.

</para></listitem>

<listitem><para>

Set it to some other value. Some machines use the same value for ICMP packets that they use for TCP packets, for example either 30 or 60.

Others may use completely wild values.

</para></listitem>

</itemizedlist>

</refsect1>

<refsect1><title>BUGS</title>

<itemizedlist>

<listitem><para>

Many Hosts and Gateways ignore the RECORD\_ROUTE option.

</para></listitem>

<listitem><para>

The maximum IP header length is too small for options like RECORD\_ROUTE to be completely useful.

There's not much that that can be done about this, however.

</para></listitem>

<listitem><para>

Flood pinging is not recommended in general, and flood pinging the broadcast address should only be done under very controlled conditions.

</para></listitem>

</itemizedlist>

</refsect1>

<refsect1><title>SEE ALSO</title>

<para>

<citerefentry><refentrytitle/netstat/<manvolnum/1/</citerefentry>,  
<citerefentry><refentrytitle/ifconfig/<manvolnum/8/</citerefentry>.

</para>

</refsect1>

<refsect1><title>HISTORY</title>

<para>

The <command/ping/ command appeared in 4.3BSD.

</para>

<para>

The version described here is its descendant specific to Linux.

</para>

</refsect1>

<refsect1><title>SECURITY</title>

<para>

<command/ping/ requires <constant/CAP\_NET\_RAWIO/ capability to be executed. It may be used as set-uid root.

</para>

</refsect1>

<refsect1><title>AVAILABILITY</title>

<para>

<command/ping/ is part of <filename/iputils/ package and the latest versions are available in source form at

<ulink url="http://www.skbuff.net/iputils/iputils-current.tar.bz2">  
http://www.skbuff.net/iputils/iputils-current.tar.bz2</ulink>.

</para>

</refsect1>

<![IGNORE[  
<refsect1><title>COPYING</title>

<para>

<literallayout>

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OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
SUCH DAMAGE.

</literallayout>

</para>

</refsect1>

]]>

</refentry>

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/doc/ping.sgml

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=head1 NAME

docbook2man-spec - convert DocBook RefEntries to Unix manpages

=head1 SYNOPSIS

The SGMLSpM package from CPAN. This contains the sgmlspl script which is used to grok this file. Use it like this:

```
nsgmls some-docbook-document.sgml | sgmlspl docbook2man-spec.pl
```

=head1 DESCRIPTION

This is a sgmlspl spec file that produces Unix-style manpages from RefEntry markup.

See the accompanying RefEntry man page for 'plain new' documentation. :)

=head1 LIMITATIONS

Trying docbook2man on non-DocBook or non-conformant SGML results in undefined behavior. :-)

This program is a slow, dodgy Perl script.

This program does not come close to supporting all the possible markup in DocBook, and will produce wrong output in some cases with supported markup.

=head1 TODO

Add new element handling and fix existing handling. Be robust. Produce cleanest, readable man output as possible (unlike some other converters). Follow Linux man(7) convention. If this results in added logic in this script, that's okay. The code should still be reasonably organized.

Make it faster. If Perl sucks port it to another language.

=head1 COPYRIGHT

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=cut

# \$Id: docbook2man-spec.pl,v 1.1 2000/07/21 20:22:30 rosalia Exp \$

use SGMLS; # Use the SGMLS package.  
use SGMLS::Output; # Use stack-based output.  
use SGMLS::Refs;

```
#####  
# SGMLSPL script produced automatically by  
# the script sgmlspl.pl  
#  
# Document Type: any, but processes only RefEntries  
# Edited by: me :)  
#####
```

\$write\_manpages = 0;  
\$blank\_xrefs = 0;

sgml('start', sub {  
 push\_output('nul');  
 \$raw\_cdata = 1; # Makes it a bit faster.

# Links file  
open(LINKSFILE, ">manpage.links");

\$Refs = new SGMLS::Refs("manpage.refs");  
});  
sgml('end', sub {  
 close(LINKSFILE);  
 if(\$blank\_xrefs) {  
 print STDERR "Warning: output contains unresolved XRefs\n";  
 }  
});

```
#####
```

```

#
# Output helpers
#
#####

# Our own version of sgml() and output() to allow simple string output
# to play well with roff's stupid whitespace rules.

sub man_sgml
{
  if(ref($_[1]) eq 'CODE') {
    return &sgml;
  }

  my $s = $_[1];

  $s =~ s/\\|\\|\\|\\|/g;
  $s =~ s/^\|'/g;

  # \n at the beginning means start at beginning of line
  if($s
  =~ s/^\n/) {
    $sub = 'sub { output "\n" unless $newline_last++; };
    if($s eq ") {
      sgml($_[0], eval('sub { output "\n" unless $newline_last++; }'));
    } elsif($s =~ ^n$/) {
      sgml($_[0], eval("sub { output '\\n' unless \$newline_last++; output '$s'; }"));
    } else {
      sgml($_[0], eval("sub { output '\\n' unless \$newline_last; output '$s'; \$newline_last = 0; }"));
    }
  } else {
    if($s =~ ^n$/) {
      sgml($_[0], eval("sub { output '$s'; \$newline_last = 1; }"));
    } else {
      sgml($_[0], eval("sub { output '$s'; \$newline_last = 0; }"));
    }
  }
}

sub man_output
{
  $_ = shift;
  if(s/^\n/) {
    output "\n" unless $newline_last++;
  }
  return if $_ eq ";";

  output $_;
}

```



```

if(@_) {
  output @_;
  $newline_last = (pop(@_) =~ /\n$/);
} else {
  $newline_last = ($_ =~ /\n$/)
}
}

# Fold lines into one, quote some characters
sub fold_string
{
  $_ = shift;

  s/\|\\\|/g;
  s/"|\\|&"/g;

  # Change tabs to spaces
  tr/\t/n/ /;

  # Trim whitespace from beginning and end.
  s/^ +//;
  s/
+$///;

  return $_;
}

sub save_cdata()
{
  $raw_cdata++;
  push_output('string');
}

sub bold_on()
{
  # If the last font is also bold, don't change anything.
  # Basically this is to just get more readable man output.
  if($fontstack[$#fontstack] ne 'bold') {
    if(!$raw_cdata) {
      output '\fB';
      $newline_last = 0;
    }
  }
  push(@fontstack, 'bold');
}

sub italic_on()

```

```

{
# If the last font is also italic, don't change anything.
if($fontstack[$#fontstack] ne 'italic') {
if(!$raw_cdata) {
output '\fI';
$newline_last = 0;
}
}
push(@fontstack, 'italic');
}

sub font_off()
{
my $thisfont = pop(@fontstack);
my $lastfont = $fontstack[$#fontstack];

# Only output font change if it is different
if($thisfont ne $lastfont) {
if($raw_cdata) { return; }
elsif($lastfont eq 'bold') { output '\fB'; }
elsif($lastfont eq 'italic') { output '\fI'; }
else { output '\fR'; }

$newline_last = 0;
}
}

#####
#
#
Manpage management
#
#####

sgml('<REFENTRY>', sub {
# This will be overwritten at end of REFMETA, when we know the name of the page.
pop_output();

$write_manpages = 1; # Currently writing manpage.

$nocollapse_whitespace = 0; # Current whitespace collapse counter.
$newline_last = 1; # At beginning of line?
# Just a bit of warning, you will see this variable manipulated

```

```

# manually a lot. It makes the code harder to follow but it
# saves you from having to worry about collapsing at the end of
# parse, stopping at verbatims, etc.
$raw_cdata = 0;          # Instructs certain output functions to
    # leave CDATA alone, so we can assign
    # it to a string and process it, etc.
@fontstack = (); # Fonts being activated.

$manpage_title = ""; # Needed for indexing.
$manpage_sect = "";
@manpage_names = ();

$manpage_misc = "";

$list_nestlevel = 0; # Indent certain nested
content.
});
sgml('</REFENTRY>', sub {
    if(!$newline_last) {
        output "\n";
    }
}

$write_manpages = 0;
$raw_cdata = 1;
push_output('nul');
});

sgml('</REFMETA>', sub {
    push_output('file', "$manpage_title.$manpage_sect");

    output <<_END_BANNER;
    .\\| " This manpage has been automatically generated by docbook2man
    .\\| from a DocBook document. This tool can be found at:
    .\\| <http://shell.ipoline.com/~elmert/comp/docbook2X/>
    .\\| Please send any bug reports, improvements, comments, patches,
    .\\| etc. to Steve Cheng <steve@ggi-project.org>.
    _END_BANNER

    my $manpage_date = `date "+%d %B %Y"`;

    output '.TH "'';

    # If the title is not mixed-case, convention says to
    # uppercase the whole title. (The canonical title is
    # lowercase.)
    if($manpage_title =~ /[A-Z]/) {
        output fold_string($manpage_title);
    } else {

```

```

output uc(fold_string($manpage_title));
}

output "" "", fold_string($manpage_sect),
"" "", fold_string(`date "+%d %B %Y"`),
"" "", $manpage_misc,
"" "",
$manpage_manual,
"\"n";

$newline_last = 1;

# References to this RefEntry.
my $id = $_[0]->parent->attribute('ID')->value;
if($id ne "") {
# The 'package name' part of the section should
# not be used when citing it.
my ($sectnum) = ($manpage_sect =~ /[0-9]*/);

if($_[0]->parent->attribute('XREFLABEL')->value eq "") {
$Refs->put("refentry:$id", "$manpage_title($sectnum)");
} else {
$Refs->put("refentry:$id",
$_[0]->parent->attribute('XREFLABEL')->value .
"($sectnum)");
}
}
});

sgml('<REFENTRYTITLE>', sub {
if($_[0]->in('REFMETA')) {
save_cdata();
} else {
# Manpage citations are in bold.
bold_on();
}
});

sgml('</REFENTRYTITLE>', sub {
if($_[0]->in('REFMETA')) {
$raw_cdata--;
$manpage_title = pop_output();
}
else { font_off(); }
});

sgml('<MANVOLNUM>', sub {
if($_[0]->in('REFMETA')) {
save_cdata();

```

```

} else {
# Manpage citations use ().
output '(';
}
});
sgml('</MANVOLNUM>', sub {
if($_[0]->in('REFMETA')) {
$raw_cdata--;
$manpage_sect
= pop_output();
}
else { output ')' }
});

sgml('<REFMISCINFO>', \&save_cdata);
sgml('</REFMISCINFO>', sub {
$raw_cdata--;
$manpage_misc = fold_string(pop_output());
});

# NAME section
man_sgml('<REFNAMEDIV>', "\n.SH NAME\n");

sgml('<REFNAME>', \&save_cdata);
sgml('</REFNAME>', sub {
$raw_cdata--;
push(@manpage_names, pop_output());
});

sgml('<REFPURPOSE>', \&save_cdata);
sgml('</REFPURPOSE>', sub {
$raw_cdata--;
my $manpage_purpose = fold_string(pop_output());

for(my $i = 0; $i < $#manpage_names; $i++) {
output fold_string($manpage_names[$i], ', ');
}

output fold_string($manpage_names[$#manpage_names]);
output " \|- $manpage_purpose\n";

$newline_last = 1;

foreach(@manpage_names) {
# Don't link to itself
if($_ ne $manpage_title) {
print LINKSFILE "$manpage_title.$manpage_sect $_.$manpage_sect\n";
}
}
}

```

```
}  
}  
});
```

```
man_sgml('<REFCLASS>', "\n.sp\n");
```

```
#RefDescriptor
```

```
#####  
#  
#  
SYNOPSIS section and synopses  
#  
#####
```

```
man_sgml('<REFSYNOPSISDIV>', "\n.SH SYNOPSIS\n");  
man_sgml('</REFSYNOPSISDIV>', "\n");
```

```
## FIXME! Must be made into block elements!!
```

```
#sgml('<FUNCSYNOPSIS>', \&bold_on);  
#sgml('</FUNCSYNOPSIS>', \&font_off);  
#sgml('<CMDSYNOPSIS>', \&bold_on);  
#sgml('</CMDSYNOPSIS>', \&font_off);
```

```
man_sgml('<FUNCSYNOPSIS>', sub {  
  man_output("\n.sp\n");  
  bold_on();  
});  
man_sgml('</FUNCSYNOPSIS>', sub {  
  font_off();  
  man_output("\n");  
});
```

```
man_sgml('<CMDSYNOPSIS>', "\n\n");  
man_sgml('</CMDSYNOPSIS>', "\n\n");
```

```
man_sgml('<FUNCPROTOTYPE>', "\n.sp\n");
```

```
# Arguments to functions. This is C convention.
```

```
man_sgml('<PARAMDEF>', '(');  
man_sgml('</PARAMDEF>', '); \n");  
man_sgml('<VOID>', "(void); \n");
```

```

sub arg_start
{
# my $choice = $_[0]->attribute('CHOICE')->value;

# The content model for CmdSynopsis doesn't include #PCDATA,
# so we won't see any of the whitespace in the source file,
#
# so we have to add it after each component.
output ' ';

if($_[0]->attribute('CHOICE')->value =~ /opt/i) {
output '[';
}
bold_on();
}
sub arg_end
{
font_off();
if($_[0]->attribute('REP')->value =~ /^Repeat/i) {
italic_on();
output ' ...';
font_off();
}
if($_[0]->attribute('CHOICE')->value =~ /opt/i) {
output ']';
}
}

sgml('<ARG>', \&arg_start);
sgml('</ARG>', \&arg_end);
sgml('<GROUP>', \&arg_start);
sgml('</GROUP>', \&arg_end);

sgml('<OPTION>', \&bold_on);
sgml('</OPTION>', \&font_off);

# FIXME: This is one _blank_ line.
man_sgml('<SBR>', "\n\n");

#####
#
# General sections
#
#####

# The name of the section is handled by TITLE. This just sets

```

```

# up the roff markup.
man_sgml('<REFSECT1>', "\n.SH ");
man_sgml('<REFSECT2>', "\n.SS ");
man_sgml('<REFSECT3>', "\n.SS ");

#####
#
#
Titles, metadata.
#
#####

sgml('<TITLE>', sub {
if($_->in('REFERENCE') or $_->in('BOOK')) {
    $write_manpages = 1;
    }
save_cdata();
});
sgml('</TITLE>', sub {
my $title = fold_string(pop_output());
$raw_cdata--;

if($_->in('REFERENCE') or $_->in('BOOK')) {
    # We use TITLE of enclosing Reference or Book as manual name
    $manpage_manual = $title;
    $write_manpages = 0;
    }
elseif(exists $_->parent->ext->{'title'}) {
    # By far the easiest case. Just fold the string as
    # above, and then set the parent element's variable.
    $_->parent->ext->{'title'} = $title;
    }
else {
    # If the parent element's handlers are lazy,
    # output the folded string for them :)
    # We assume they want uppercase and a newline.
    output "", uc($title), "\n\n";
    $newline_last = 1;
    }
});

sgml('<ATTRIBUTION>', sub { push_output('string') });
sgml('</ATTRIBUTION>', sub { $_->parent->ext->{'attribution'}
= pop_output(); });

# IGNORE.

```



```
sgml('<DOCINFO>', sub { push_output('nul'); });
sgml('</DOCINFO>', sub { pop_output(); });
sgml('<REFSECT1INFO>', sub { push_output('nul'); });
sgml('</REFSECT1INFO>', sub { pop_output(); });
sgml('<REFSECT2INFO>', sub { push_output('nul'); });
sgml('</REFSECT2INFO>', sub { pop_output(); });
sgml('<REFSECT3INFO>', sub { push_output('nul'); });
sgml('</REFSECT3INFO>', sub { pop_output(); });
```

```
sgml('<INDEXTERM>', sub { push_output('nul'); });
sgml('</INDEXTERM>', sub { pop_output(); });
```

```
#####
#
# Set bold on enclosed content
#
#####
```

```
sgml('<APPLICATION>', \&bold_on); sgml('</APPLICATION>', \&font_off);
```

```
sgml('<CLASSNAME>', \&bold_on); sgml('</CLASSNAME>', \&font_off);
sgml('<STRUCTNAME>', \&bold_on); sgml('</STRUCTNAME>', \&font_off);
sgml('<STRUCTFIELD>', \&bold_on); sgml('</STRUCTFIELD>', \&font_off);
sgml('<SYMBOL>',
\&bold_on); sgml('</SYMBOL>', \&font_off);
sgml('<TYPE>', \&bold_on); sgml('</TYPE>', \&font_off);
```

```
sgml('<ENVAR>', \&bold_on); sgml('</ENVAR>', \&font_off);
```

```
sgml('<FUNCTION>', \&bold_on); sgml('</FUNCTION>', \&font_off);
```

```
sgml('<EMPHASIS>', \&bold_on); sgml('</EMPHASIS>', \&font_off);
```

```
sgml('<ERRORNAME>', \&bold_on); sgml('</ERRORNAME>', \&font_off);
# ERRORTYPE
```

```
sgml('<COMMAND>', \&bold_on); sgml('</COMMAND>', \&font_off);
```

```
sgml('<GUIBUTTON>', \&bold_on); sgml('</GUIBUTTON>', \&font_off);
sgml('<GUIICON>', \&bold_on); sgml('</GUIICON>', \&font_off);
# GUILABEL
# GUIMENU
# GUIMENUITEM
# GUISUBMENU
# MENUCHOICE
# MOUSEBUTTON
```

```
sgml('<ACCEL>', \&bold_on); sgml('</ACCEL>', \&font_off);
sgml('<KEYCAP>', \&bold_on); sgml('</KEYCAP>', \&font_off);
sgml('<KEYSYM>', \&bold_on); sgml('</KEYSYM>', \&font_off);
# KEYCODE
# KEYCOMBO
# SHORTCUT
```

```
sgml('<USERINPUT>', \&bold_on); sgml('</USERINPUT>', \&font_off);
```

```
sgml('<INTERFACEDEFINITION>', \&bold_on);
sgml('</INTERFACEDEFINITION>', \&font_off);
```

```
#
May need to look at the CLASS
sgml('<SYSTEMITEM>', \&bold_on);
sgml('</SYSTEMITEM>', \&font_off);
```

```
#####
#
# Set italic on enclosed content
#
#####
```

```
sgml('<FIRSTTERM>', \&italic_on); sgml('</FIRSTTERM>', \&font_off);
```

```
sgml('<FILENAME>', \&italic_on); sgml('</FILENAME>', \&font_off);
sgml('<PARAMETER>', \&italic_on); sgml('</PARAMETER>', \&font_off);
sgml('<PROPERTY>', \&italic_on); sgml('</PROPERTY>', \&font_off);
```

```
sgml('<REPLACEABLE>', sub {
  italic_on();
  if($_[0]->in('TOKEN')) {
    # When tokenizing, follow more 'intuitive' convention
    output "<";
  }
});
sgml('</REPLACEABLE>', sub {
  if($_[0]->in('TOKEN')) {
    output ">";
  }
  font_off();
});
```

```
sgml('<CITETITLE>', \&italic_on); sgml('</CITETITLE>', \&font_off);
```

sgml('<FOREIGNPHRASE>', \&italic\_on); sgml('</FOREIGNPHRASE>', \&font\_off);

sgml('<LINEANNOTATION>', \&italic\_on); sgml('</LINEANNOTATION>',  
\&font\_off);

#####

#

# Other 'inline' elements

#

#####

man\_sgml('<EMAIL>', '<');  
man\_sgml('</EMAIL>', '>');  
man\_sgml('<OPTIONAL>', '[');  
man\_sgml('</OPTIONAL>', ']');

man\_sgml('</TRADEMARK>', "\\u\s-2TM\s+2\d");

man\_sgml('<COMMENT>', "[Comment: ");  
man\_sgml('</COMMENT>', "]");

man\_sgml('<QUOTE>', "\"");  
man\_sgml('</QUOTE>', "\"");

#man\_sgml('<LITERAL>', '"');  
#man\_sgml('</LITERAL>', '"');

# No special presentation:

# AUTHOR

# AUTHORINITIALS

# ABBREV

# ACTION

# ACRONYM

# ALT

# CITATION

# PHRASE

# QUOTE

# WORDASWORD

# COMPUTEROUTPUT

# MARKUP

```
# PROMPT
# RETURNVALUE
# SGMLTAG
# TOKEN
```

```
# DATABASE
# HARDWARE
# INTERFACE
# MEDIALABEL
```

```
# There doesn't seem to be a good way to represent LITERAL in -man
```

```
#####
#
# Paragraph and paragraph-like elements
#
#####
```

```
sub
```

```
para_start {
output "\n" unless $newline_last++;
```

```
# In lists, etc., don't start paragraph with .PP since
# the indentation will be gone.
```

```
if($_[0]->parent->ext->{'nbreak'}==1) {
# Usually this is the FIRST element of
# a hanging tag, so we MUST not do a full
# paragraph break.
$_[0]->parent->ext->{'nbreak'} = 2;
} elsif($_[0]->parent->ext->{'nbreak'}==2) {
# Usually these are the NEXT elements of
# a hanging tag. If we break using a blank
# line, we're okay.
output "\n";
} else {
# Normal case. (For indented blocks too, at least
# -man isn't so braindead in this area.)
output ".PP\n";
}
}
```

```
# Actually applies to a few other block elements as well
sub para_end {
output "\n" unless $newline_last++;
}
```

```
sgml('<PARA>', \&para_start);
sgml('</PARA>', \&para_end);
sgml('<SIMPARA>', \&para_start);
sgml('</SIMPARA>', \&para_end);
```

```
# Nothing special, except maybe FIXME set nobreak.
```

```
sgml('<INFORMALEXAMPLE>',
\&para_start);
sgml('</INFORMALEXAMPLE>', \&para_end);
```

```
#####
```

```
#
```

```
# Blocks using SS sections
```

```
#
```

```
#####
```

```
# FIXME: We need to consider the effects of SS
```

```
# in a hanging tag :(
```

```
# Complete with the optional-title dilemma (again).
```

```
sgml('<ABSTRACT>', sub {
$_[0]->ext->{'title'} = 'ABSTRACT';
output "\n" unless $newline_last++;
push_output('string');
});
```

```
sgml('</ABSTRACT>', sub {
my $content = pop_output();
```

```
# As ABSTRACT is never on the same level as RefSect1,
```

```
# this leaves us with only .SS in terms of -man macros.
```

```
output ".SS \"", uc($_[0]->ext->{'title'}), "\"\n";
```

```
output $content;
```

```
output "\n" unless $newline_last++;
```

```
});
```

```
# Ah, I needed a break. Example always has a title.
```

```
man_sgml('<EXAMPLE>', "\n.SS ");
```

```
sgml('</EXAMPLE>', \&para_end);
```

```
# Same with sidebar.
```

```
man_sgml('<SIDEBAR>', "\n.SS ");
```

```
sgml('</SIDEBAR>', \&para_end);
```

```
# NO title.
man_sgml('<HIGHLIGHTS>',
"\n.SS HIGHLIGHTS\n");
sgml('</HIGHLIGHTS>', \&para_end);
```

```
#####
#
# Indented 'Block' elements
#
#####
```

```
sub indent_block_start
{
output "\n" unless $newline_last++;
output ".sp\n.RS\n";
}
sub indent_block_end
{
output "\n" unless $newline_last++;
output ".RE\n";
}
```

```
# This element is almost like an admonition (below),
# only the default title is blank :)
```

```
sgml('<BLOCKQUOTE>', sub {
$_[0]->ext->{'title'} = "";
output "\n" unless $newline_last++;
push_output('string');
});
sgml('</BLOCKQUOTE>', sub {
my $content = pop_output();
```

```
indent_block_start();
```

```
if($_[0]->ext->{'title'}) {
output ".B \"", $_[0]->ext->{'title'}, ":\n";
}
```

```
output $content;
```

```
if($_[0]->ext->{'attribution'}) {
output "\n" unless $newline_last++;
# One place where roff's space-sensitivity makes sense :)
output "\n      --";
```

```

output
$_[0]->ext->{'attribution'} . "\n";
}

indent_block_end();
});

# Set off admonitions from the rest of the text by indenting.
# FIXME: Need to check if this works inside paragraphs, not enclosing them.
sub admonition_end {
my $content = pop_output();

indent_block_start();

# When the admonition is only one paragraph,
# it looks nicer if the title was inline.
my $num_para;
while ($content =~ /\^\.PP/gm) { $num_para++ }
if($num_para==1) {
$content =~ s/\^\.PP\n//;
}

output ".B \"\" . $_[0]->ext->{'title'} . ":\n";
output $content;

indent_block_end();
}

sgml('<NOTE>', sub {
# We can't see right now whether or not there is a TITLE
# element, so we have to save the output now and add it back
# at the end of this admonition.
$_[0]->ext->{'title'} = 'Note';

# Although admonition_end's indent_block_start will do this,
# we need to synchronize the output _now_
output "\n" unless $newline_last++;

push_output('string');
});
sgml('</NOTE>', \&admonition_end);

#
Same as above.
sgml('<WARNING>', sub {
$_[0]->ext->{'title'} = 'Warning';
output "\n" unless $newline_last++;
push_output('string');

```

```

});
sgml('</WARNING>', \&admonition_end);

sgml('<TIP>', sub {
  $_[0]->ext->{'title'} = 'Tip';
  output "\n" unless $newline_last++;
  push_output('string');
});
sgml('</TIP>', \&admonition_end);
sgml('<CAUTION>', sub {
  $_[0]->ext->{'title'} = 'Caution';
  output "\n" unless $newline_last++;
  push_output('string');
});
sgml('</CAUTION>', \&admonition_end);

sgml('<IMPORTANT>', sub {
  $_[0]->ext->{'title'} = 'Important';
  output "\n" unless $newline_last++;
  push_output('string');
});
sgml('</IMPORTANT>', \&admonition_end);

```

```

#####
#
# Verbatim displays.
#
#####

```

```

sub verbatim_start {
  output "\n" unless $newline_last++;

  if($_[0]->parent->ext->{'nobreak'}==1) {
    # Usually this is the FIRST element of
    #
    a hanging tag, so we MUST not do a full
    # paragraph break.
  }
}

```



```

$_[0]->parent->ext->{'nobreak'} = 2;
} else {
output "\n";
}

output(".nf\n") unless $nocollapse_whitespace++;
}

sub verbatim_end {
output "\n" unless $newline_last++;
output(".fi\n") unless --$nocollapse_whitespace;
}

sgml('<PROGRAMLISTING>', \&verbatim_start);
sgml('</PROGRAMLISTING>', \&verbatim_end);

sgml('<SCREEN>', \&verbatim_start);
sgml('</SCREEN>', \&verbatim_end);

sgml('<LITERALLAYOUT>', \&verbatim_start);
sgml('</LITERALLAYOUT>', \&verbatim_end);

#sgml('<SYNOPSIS>', sub {
# if($_[0]->attribute('FORMAT')->value =~ /linespecific/i) {
# &verbatim_start;
# } else {
# roffcmd("");
# }
#});
#
#sgml('</SYNOPSIS>', sub {
# if($_[0]->attribute('FORMAT')->value =~ /linespecific/i) {
# &verbatim_end;
# }
# else {
# roffcmd("");# not sure about this.
# }
#});
sgml('<SYNOPSIS>', \&verbatim_start);
sgml('</SYNOPSIS>', \&verbatim_end);

```

```
#####
#
#
Lists
#
#####

# Indent nested lists.
sub indent_list_start {
  if($list_nestlevel++) {
    output "\n" unless $newline_last++;
    output ".RS\n";
  }
}
sub indent_list_end {
  if(--$list_nestlevel) {
    output "\n" unless $newline_last++;
    output ".RE\n";
  }
}

sgml('<VARIABLELIST>', \&indent_list_start);
sgml('</VARIABLELIST>', \&indent_list_end);
sgml('<ITEMIZEDLIST>', \&indent_list_start);
sgml('</ITEMIZEDLIST>', \&indent_list_end);
sgml('<ORDEREDLIST>', sub {
  indent_list_start();
  $_[0]->ext->{'count'} = 1;
});
sgml('</ORDEREDLIST>', \&indent_list_end);

# Output content on one line, bolded.
sgml('<TERM>', sub {
  output "\n" unless $newline_last++;
  output ".TP\n";
  bold_on();
  push_output('string');
});
sgml('</TERM>', sub {
  my $term = pop_output();
  $term =~ tr/\n/ /;
  output $term;
  font_off();
  output "\n";
  $newline_last = 1;
});
```

```

sgml('<LISTITEM>', sub {
# A bulleted list.
if($_[0]->in('ITEMIZEDLIST'))
{
output "\n" unless $newline_last++;
output ".TP 0.2i\n\\(bu\n";
}

# Need numbers.
# Assume Arabic numeration for now.
elsif($_[0]->in('ORDEREDLIST')) {
output "\n" unless $newline_last++;
output ".TP ", $_[0]->parent->ext->'count'+, ". \n";
}

$_[0]->ext->'nobreak' = 1;
});

sgml('<SIMPLELIST>', sub {
$_[0]->ext->'first_member' = 1;
});

sgml('<MEMBER>', sub {
my $parent = $_[0]->parent;

if($parent->attribute('TYPE')->value =~ /Inline/i) {
if($parent->ext->'first_member') {
# If this is the first member don't put any commas
$parent->ext->'first_member' = 0;
} else {
output ", ";
}
}
} elsif($parent->attribute('TYPE')->value =~ /Vert/i) {
output "\n" unless $newline_last++;
output "\n";
}
});

#####
#
# Stuff we don't know how to handle (yet)
#
#####

```

# Address blocks:

# Credit stuff:

#

ACKNO

# ADDRESS

# AFFILIATION

# ARTPAGENUMS

# CONTRIBUTION

# AUTHORBLURB

# AUTHORGROUP

# OTHERCREDIT

# HONORIFIC

# Areas:

# AREA

# AREASET

# AREASPEC

#####

#

# Linkage, cross references

#

#####

# Print the URL

sgml('</ULINK>', sub {

# output ' <URL:!', \$\_[0]->attribute('URL')->value, '>';

\$newline\_last = 0;

});

# If cross reference target is a RefEntry,

# output CiteRefEntry-style references.

sgml('<XREF>', sub {

my \$id = \$\_[0]->attribute('LINKEND')->value;

my \$manref = \$Refs->get("refentry:\$id");

if(\$manref) {

my (\$title, \$sect) = (\$manref =~ /(.\*)(\(.\*\))/);

bold\_on();

output \$title;

font\_off();

output \$sect;

} else {

```

$blank_xrefs++ if $write_manpages;
output "[XRef to $id]";
}

$newline_last = 0;
});

# Anchor

#####
#
# Other handlers
#
#####

man_sgml('[lt
    ]', '<');
man_sgml('[gt  ]', '>');
man_sgml('[amp ]', '&');

#
# Default handlers (uncomment these if needed). Right now, these are set
# up to gag on any unrecognised elements, sdata, processing-instructions,
# or entities.
#
# sgml('start_element',sub { die "Unknown element: " . $_[0]->name; });
# sgml('end_element',"");

# This is for weeding out and escaping certain characters.
# This looks like it's inefficient since it's done on every line, but
# in reality, SGMLSpM and sgmlspl parsing ESIS takes _much_ longer.

sgml('cdata', sub
{
if(!$write_manpages) { return; }
elsif($raw_cdata) { output $_[0]; return; }

# Escape backslashes
$_[0] =~ s/\\/\\g;

# In non-'pre'-type elements:
if(!$nocollapse_whitespace) {
# Change tabs to spaces
$_[0] =~ tr/t/ /;

```

```

# Do not allow indents at beginning of line
# groff chokes on that.
if($newline_last) {
  $_[0] =~ s/^ +//;

  # If the
line is all blank, don't do anything.
  if($_[0] eq "") { return; }

  $_[0] =~ s/^\.\.\&\/.;

  # Argh... roff doesn't like ' either...
  $_[0] =~ s/^\'\.\.\&\/';
}
}

$newline_last = 0;

output $_[0];
});

# When in whitespace-collapsing mode, we disallow consecutive newlines.

sgml('re', sub
{
  if($nocollapse_whitespace || !$newline_last) {
    output "\n";
  }

  $newline_last = 1;
});

sgml('sdata',sub { die "Unknown SDATA: " . $_[0]; });
sgml('pi',sub { die "Unknown processing instruction: " . $_[0]; });
sgml('entity',sub { die "Unknown external entity: " . $_[0]->name; });
sgml('start_subdoc',sub { die "Unknown subdoc entity: " . $_[0]->name; });
sgml('end_subdoc',"");
sgml('conforming',"");

1;

Found in path(s):
* /opt/cola/permits/2005421805_1715245725.2397015/0/iputils-20071127-17.el6_4-1.src.rpm-cosi-expand-archive-
Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/doc/docbook2man-spec.pl
No license file was found, but licenses were detected in source scan.

/*

```

```
* tracepath6.c
*
* This program is free software; you can redistribute it and/or
* modify it under the terms of the GNU General Public License
* as published by the Free Software Foundation; either version
* 2 of the License, or (at your option) any later version.
*
* Authors: Alexey Kuznetsov, <kuznet@ms2.inr.ac.ru>
*/
```

Found in path(s):

```
* /opt/cola/permits/2005421805_1715245725.2397015/0/iputils-20071127-17.el6_4-1.src.rpm-cosi-expand-archive-
Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/tracepath6.c
No license file was found, but licenses were detected in source scan.
```

```
/* pg3.c: Packet Generator for packet performance testing.
*
* Copyright 2001 by Robert Olsson <robert.olsson@its.uu.se>
*
* Uppsala University, Sweden
*
* This program is free software; you can redistribute it and/or modify
* it under the terms of the GNU General Public License as published by
* the Free Software Foundation; either version 2 of the License, or
* (at your option) any later version.
*
*
*
*/
```

Found in path(s):

```
* /opt/cola/permits/2005421805_1715245725.2397015/0/iputils-20071127-17.el6_4-1.src.rpm-cosi-expand-archive-
Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/Modules/pg3.c
No license file was found, but licenses were detected in source scan.
```

```
/*
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 \* OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF  
 \* SUCH DAMAGE.  
 \*  
 \* @(#)tftp.h 8.1 (Berkeley) 6/2/93  
 \*/

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/tftp.h  
 No license file was found, but licenses were detected in source scan.

/\*

\* tracepath.c  
 \*  
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 \* modify it under the terms of the GNU General Public License  
 \* as published by the Free Software Foundation; either version  
 \* 2 of the License, or (at your option) any later version.  
 \*  
 \* Authors: Alexey Kuznetsov, <kuznet@ms2.inr.ac.ru>  
 \*/

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/tracepath.c  
 No license file was found, but licenses were detected in source scan.

License: BSD with advertising and GPLv2+ and Rdisc

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils.spec



No license file was found, but licenses were detected in source scan.

```
/* Mode: C;
* ifenslave.c: Configure network interfaces for parallel routing.
*
* This program controls the Linux implementation of running multiple
* network interfaces in parallel.
*
* Author: Donald Becker <becker@cesdis.gsfc.nasa.gov>
* Copyright 1994-1996 Donald Becker
*
* This program is free software; you can redistribute it
* and/or modify it under the terms of the GNU General Public
* License as published by the Free Software Foundation.
*
* The author may be reached as becker@CESDIS.gsfc.nasa.gov, or C/O
* Center of Excellence in Space Data and Information Sciences
* Code 930.5, Goddard Space Flight Center, Greenbelt MD 20771
*
* Changes :
* - 2000/10/02 Willy Tarreau <willy at meta-x.org> :
* - few fixes. Master's MAC address is now correctly taken from
* the first device when not previously set ;
* - detach support : call BOND_RELEASE to detach an enslaved
interface.
* - give a mini-howto from command-line help : # ifenslave -h
*
* - 2001/02/16 Chad N. Tindel <ctindel at ieee dot org> :
* - Master is now brought down before setting the MAC address. In
* the 2.4 kernel you can't change the MAC address while the device is
* up because you get EBUSY.
*
* - 2001/09/13 Takao Indoh <indou dot takao at jp dot fujitsu dot com>
* - Added the ability to change the active interface on a mode 1 bond
* at runtime.
*
* - 2001/10/23 Chad N. Tindel <ctindel at ieee dot org> :
* - No longer set the MAC address of the master. The bond device will
* take care of this itself
* - Try the SIOC*** versions of the bonding ioctls before using the
* old versions
* - 2002/02/18 Erik Habbinga <erik_habbinga @ hp dot com> :
* - ifr2.ifr_flags was not initialized in the hwaddr_notset case,
* SIOCGIFFLAGS now called before hwaddr_notset test
*
* - 2002/10/31 Tony Cureington <tony.cureington * hp_com> :
* - If the master does not have a hardware address when the first slave
```

\* is enslaved, the master is assigned the hardware address of that  
 \* slave - there is a comment in bonding.c stating "ifenslave takes  
 \* care of this now." This corrects the problem of slaves having  
 \* different hardware addresses in active-backup mode when  
 \* multiple interfaces are specified on a single ifenslave command  
 \* (ifenslave bond0 eth0 eth1).  
 \*

\* - 2003/03/18 - Tsippy Mendelson <tsippy.mendelson at intel dot com> and  
 \* Shmulik Hen <shmulik.hen at intel dot com>  
 \* - Moved setting the slave's mac address and opening it, from  
 \* the application to the driver. This enables support of modes  
 \* that need to use the unique mac address of each slave.  
 \* The driver also takes care of closing the slave and restoring its  
 \* original mac  
 address upon release.  
 \* In addition, block possibility of enslaving before the master is up.  
 \* This prevents putting the system in an undefined state.  
 \*

\* - 2003/05/01 - Amir Noam <amir.noam at intel dot com>  
 \* - Added ABI version control to restore compatibility between  
 \* new/old ifenslave and new/old bonding.  
 \* - Prevent adding an adapter that is already a slave.  
 \* Fixes the problem of stalling the transmission and leaving  
 \* the slave in a down state.  
 \*

\* - 2003/05/01 - Shmulik Hen <shmulik.hen at intel dot com>  
 \* - Prevent enslaving if the bond device is down.  
 \* Fixes the problem of leaving the system in unstable state and  
 \* halting when trying to remove the module.  
 \* - Close socket on all abnormal exists.  
 \* - Add versioning scheme that follows that of the bonding driver.  
 \* current version is 1.0.0 as a base line.  
 \*

\* - 2003/05/22 - Jay Vosburgh <fubar at us dot  
 ibm dot com>  
 \* - ifenslave -c was broken; it's now fixed  
 \* - Fixed problem with routes vanishing from master during enslave  
 \* processing.  
 \*

\* - 2003/05/27 - Amir Noam <amir.noam at intel dot com>  
 \* - Fix backward compatibility issues:  
 \* For drivers not using ABI versions, slave was set down while  
 \* it should be left up before enslaving.  
 \* Also, master was not set down and the default set\_mac\_address()  
 \* would fail and generate an error message in the system log.  
 \* - For opt\_c: slave should not be set to the master's setting  
 \* while it is running. It was already set during enslave. To  
 \* simplify things, it is now handled separately.

\*  
\* - 2003/12/01 - Shmulik Hen <shmulik.hen at intel dot com>  
\* - Code cleanup and style changes  
\* set version to 1.1.0  
\*/

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/ifenslave.tar.gz-cosi-expand-archive-3uHuRhT/ifenslave.c  
No license file was found, but licenses were detected in source scan.

<refentry id="pg3">

<refmeta>  
<refentrytitle>pg3</refentrytitle>  
<manvolnum>8</manvolnum>  
<refmiscinfo>iputils-&snapshot;</refmiscinfo>  
</refmeta>

<refnamediv>  
<refname>pg3, ipg, pgset</refname>  
<refpurpose>send stream of UDP packets</refpurpose>  
</refnamediv>

<refsynopsisdiv>  
<cmdsynopsis>  
<command>source ipg</command>  
</cmdsynopsis>  
<cmdsynopsis>  
<command>pg</command>  
</cmdsynopsis>  
<cmdsynopsis>  
<command>pgset</command>  
<arg choice="req"><replaceable/COMMAND/</arg>  
</cmdsynopsis>  
</refsynopsisdiv>

<refsect1><title>DESCRIPTION</title>  
<para>  
<command/ipg/ is not a program, it is script which should be sourced to <command/bash/. When sourced it loads module <filename/pg3/ and exports a few of functions accessible from parent shell. These macros are <command/pg/ to start packet injection and to get the results of run; and <command/pgset/ to setup packet generator.  
</para>

<para>

<command/pgset/ can send the following  
commands to module <filename/pg3/:  
</para>  
</refsect1>

<refsect1><title>COMMAND</title>

<variablelist>

<varlistentry>

<term><option>odev <replaceable/DEVICE/</option></term>

<listitem><para>

Name of Ethernet device to test. See

<link linkend="pg3.warning">warning</link> below.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>pkt\_size <replaceable/BYTES/</option></term>

<listitem><para>

Size of packet to generate. The size includes all the headers: UDP, IP, MAC, but does not account for overhead internal to medium, i.e. FCS and various paddings.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>frags <replaceable/NUMBER/</option></term>

<listitem><para>

Each packet will contain <replaceable/NUMBER/ of fragments.

Maximal amount for linux-2.4 is 6. Far not all the devices support fragmented buffers.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>count <replaceable/NUMBER/</option></term>

<listitem><para>

Send

stream of <replaceable/NUMBER/ of packets and stop after this.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>ipg <replaceable/TIME/</option></term>

<listitem><para>

Introduce artificial delay between packets of <replaceable/TIME/ microseconds.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>dst <replaceable/IP\_ADDRESS/</option></term>

<listitem><para>

Select IP destination where the stream is sent to.

Beware, never set this address at random. <command/pg3/ is not a toy, it creates really tough stream. Default value is 0.0.0.0.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>dst <replaceable/MAC\_ADDRESS/</option></term>

<listitem><para>

Select MAC destination where the stream is sent to.

Default value is 00:00:00:00:00:00 in hope that this will not be received by any node on LAN.

</para></listitem>

</varlistentry>

<varlistentry>

<term><option>stop</option></term>

<listitem><para>

Abort packet injection.

</para></listitem>

</varlistentry>

</variablelist>

</refsect1>

<refsect1 id="pg3.warning"><title>WARNING</title>

<para>

When output device is set to some random device different of hardware Ethernet device, <command/pg3/ will crash kernel.

</para>

<para>

Do not use it on VLAN, ethertap, VTUN and other devices, which emulate Ethernet not being real Ethernet in fact.

</para>

</refsect1>

<refsect1><title>AUTHOR</title>

<para>

<command/pg3/ was written by <ulink url="mailto:robert.olsson@its.uu.se">

Robert Olsson &lt;robert.olsson@its.uu.se&gt;</ulink>.

</para>

</refsect1>

<refsect1><title>SECURITY</title>

<para>

This can be used only by superuser.

</para>

<para>

This tool creates floods of packets which is unlikely to be handled even by high-end machines. For example, it saturates gigabit link with 60 byte packets when used with Intel's e1000. In face of such stream switches, routers and end hosts may deadlock, crash, explode.

Use only in test lab environment.

</para>

</refsect1>

<refsect1><title>AVAILABILITY</title>

<para>

<command/pg3/

is part of <filename/iputils/ package

and the latest versions are available in source form at

<ulink url="http://www.skbuff.net/iputils/iputils-current.tar.bz2">

http://www.skbuff.net/iputils/iputils-current.tar.bz2</ulink>.

</para>

</refsect1>

<![IGNORE[

<refsect1><title>COPYING</title>

<para>

<literallayout>

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For more details see the file COPYING in the source distribution of Linux kernel of version 2.4.

</literallayout>

</para>

</refsect1>

]]>

</refentry>

Found in path(s):

\* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-

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\*

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\* Mike Muuss.

\*

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\*/

/\*

\* P I N G . C

\*

\* Using the InterNet Control Message Protocol (ICMP) "ECHO" facility,

\* measure round-trip-delays and packet loss across network paths.

\*

\* Author -

\* Mike Muuss

\* U. S. Army Ballistic Research Laboratory

- \* December, 1983
- \*
- \* Status -
- \* Public Domain. Distribution Unlimited.
- \* Bugs -
- \* More statistics could always be gathered.
- \* This program has to run SUID to ROOT to access the ICMP socket.
- \*/

Found in path(s):

- \* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/ping.c
- \* /opt/cola/permits/2005421805\_1715245725.2397015/0/iputils-20071127-17.el6\_4-1.src.rpm-cosi-expand-archive-Uo2GgK2a/iputils-s20071127.tar.bz2-cosi-expand-archive-lhfYwvyj/iputils-s20071127/ping6.c

# 1.194 upstart 0.6.5-12.el6\_4.1

## 1.194.1 Available under license :

GNU GENERAL PUBLIC LICENSE  
Version 2, June 1991

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# 1.201 python-nss 0.11

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# 1.204 tar 1.23-11.el6

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(Used for asynchronous name resolves)

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zlib [http://www.gzip.org/zlib/zlib\\_license.html](http://www.gzip.org/zlib/zlib_license.html)



(Used for compressed Transfer-Encoding support) Uses an MIT-style license that shouldn't collide with any other library.

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```

```
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## 1.220 libsemanage-common 2.0.43-4.2.el6

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## 1.221 dbus-glib 0.86-6.el6

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```

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2 of the License, or  
(at your option) any later version.
```

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```

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## 1.224 texinfo 4.13a-8.el6

### 1.224.1 Available under license :

```
\input texinfo @c -*.texinfo-*
```

```
@copying
```

```
Public domain.
```

```
@end copying
```

```
@insertcopying
```

```
@bye
```

```
GNU GENERAL PUBLIC LICENSE
```

```
Version 3, 29 June 2007
```

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## 1.225 kerberos 1.10

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cmd/krb5/slave/kpropd\_rpc.c  
lib/gss\_mechs/mech\_krb5/et/kdb5\_err.c  
lib/gss\_mechs/mech\_spnego/mech/gssapiP\_spnego.h  
lib/gss\_mechs/mech\_spnego/mech/spnego\_mech.c  
lib/krb5/kadm5/kadm\_host\_srv\_names.c  
lib/krb5/kdb/kdb\_convert.c  
lib/krb5/kdb/kdb\_hdr.h  
lib/krb5/kdb/kdb\_log.c  
lib/krb5/kdb/kdb\_log.h  
lib/libgss/g\_accept\_sec\_context.c  
lib/libgss/g\_acquire\_cred.c  
lib/libgss/g\_canon\_name.c  
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lib/libgss/g\_exp\_sec\_context.c  
lib/libgss/g\_export\_name.c  
lib/libgss/g\_glue.c  
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lib/libgss/g\_utils.c  
lib/libgss/g\_verify.c  
lib/libgss/gssd\_pname\_to\_uid.c  
uts/common/gssapi/include/gssapi\_err\_generic.h  
uts/common/gssapi/include/mechglueP.h

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- lib/gssapi/mechglue/g\_accept\_sec\_context.c
- lib/gssapi/mechglue/g\_acquire\_cred.c
- lib/gssapi/mechglue/g\_canon\_name.c
- lib/gssapi/mechglue/g\_compare\_name.c
- lib/gssapi/mechglue/g\_context\_time.c
- lib/gssapi/mechglue/g\_delete\_sec\_context.c
- lib/gssapi/mechglue/g\_dsp\_name.c
- lib/gssapi/mechglue/g\_dsp\_status.c
- lib/gssapi/mechglue/g\_dup\_name.c
- lib/gssapi/mechglue/g\_exp\_sec\_context.c
- lib/gssapi/mechglue/g\_export\_name.c
- lib/gssapi/mechglue/g\_glue.c
- lib/gssapi/mechglue/g\_imp\_name.c
- lib/gssapi/mechglue/g\_imp\_sec\_context.c
- lib/gssapi/mechglue/g\_init\_sec\_context.c
- lib/gssapi/mechglue/g\_initialize.c
- lib/gssapi/mechglue/g\_inquire\_context.c
- lib/gssapi/mechglue/g\_inquire\_cred.c
- lib/gssapi/mechglue/g\_inquire\_names.c
- lib/gssapi/mechglue/g\_process\_context.c
- lib/gssapi/mechglue/g\_rel\_buffer.c
- lib/gssapi/mechglue/g\_rel\_cred.c
- lib/gssapi/mechglue/g\_rel\_name.c
- lib/gssapi/mechglue/g\_rel\_oid\_set.c
- lib/gssapi/mechglue/g\_seal.c
- lib/gssapi/mechglue/g\_sign.c
- lib/gssapi/mechglue/g\_store\_cred.c
- lib/gssapi/mechglue/g\_unseal.c

lib/gssapi/mechglue/g\_userok.c  
lib/gssapi/mechglue/g\_utils.c  
lib/gssapi/mechglue/g\_verify.c  
lib/gssapi/mechglue/gssd\_pname\_to\_uid.c  
lib/gssapi/mechglue/mglueP.h  
lib/gssapi/mechglue/oid\_ops.c  
lib/gssapi/spnego/gssapiP\_spnego.h  
lib/gssapi/spnego/spnego\_mech.c

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including  
the following new or changed files:

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kadmin/server/ipropr\_svc.c  
lib/kdb/ipropr.x  
lib/kdb/kdb\_convert.c  
lib/kdb/kdb\_log.c  
lib/kdb/kdb\_log.h  
lib/krb5/error\_tables/kdb5\_err.et  
kprop/kpropd\_rpc.c  
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End

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Version 2, June 1991

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[This is the first released version of the library GPL. It is numbered 2 because it goes with version 2 of the ordinary GPL.]

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## 1.228 patch 2.6-6.el6

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The

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```
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under certain conditions; type `show c' for details.
```

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## 1.229 open-ldap 2.4.23-32.el6\_4.1

### 1.229.1 Available under license :

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```

Found in path(s):

```
* /opt/cola/permits/2005422292_1715245642.1702437/0/ca-certificates-2010.63-3.el6_1.5-1.src.rpm-cosi-expand-
archive-E6GauXTs/certdata2pem.py
```

No license file was found, but licenses were detected in source scan.

```
#!/usr/bin/perl -w
```

```
use diagnostics;
```

```
use Fcntl;
```

```
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```

```
#
```

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```

```
# generate-cacerts.pl generates a JKS keystore named 'cacerts' from
# OpenSSL's certificate bundle using OpenJDK's keytool.
```

```
# First extract each of OpenSSL's bundled certificates into its own
# aliased filename.
```

```
$file = $ARGV[1];
```

```
open(CERTS, $file);
```

```
@certs = <CERTS>;
```

```
close(CERTS);
```

```

$pem_file_count = 0;
$in_cert_block = 0;
$write_current_cert
= 1;
foreach $cert (@certs)
{
  if ($cert =~ /Subject: /)
  {
    $_ = $cert;
    if ($cert =~ /personal-freemail/)
    {
      $cert_alias = "thawtepersonalfreemailca";
    }
    elsif ($cert =~ /personal-basic/)
    {
      $cert_alias = "thawtepersonalbasicca";
    }
    elsif ($cert =~ /personal-premium/)
    {
      $cert_alias = "thawtepersonalpremiumca";
    }
    elsif ($cert =~ /server-certs/)
    {
      $cert_alias = "thawteserverca";
    }
    elsif ($cert =~ /premium-server/)
    {
      $cert_alias = "thawtepremiumserverca";
    }
    elsif ($cert =~ /Class 1 Public Primary Certification Authority$/)
    {
      $cert_alias = "verisignclass1ca";
    }
    elsif ($cert =~ /Class 1 Public Primary Certification Authority - G2/)
    {
      $cert_alias = "verisignclass1g2ca";
    }
    elsif ($cert =~
      /VeriSign Class 1 Public
Primary Certification Authority - G3/)
    {
      $cert_alias = "verisignclass1g3ca";
    }
    elsif ($cert =~ /Class 2 Public Primary Certification Authority$/)
    {
      $cert_alias = "verisignclass2ca";
    }
  }
}

```

```

elseif ($cert =~ /Class 2 Public Primary Certification Authority - G2/)
{
    $cert_alias = "verisignclass2g2ca";
}
elseif ($cert =~
    /VeriSign Class 2 Public Primary Certification Authority - G3/)
{
    $cert_alias = "verisignclass2g3ca";
}
elseif ($cert =~ /Class 3 Public Primary Certification Authority$/)
{
    $cert_alias = "verisignclass3ca";
}
# Version 1 of Class 3 Public Primary Certification Authority
# - G2 is added. Version 3 is excluded. See below.
elseif ($cert =~ /Class 3 Public Primary Certification Authority - G2.*1998/)
{
    $cert_alias = "verisignclass3g2ca";
}

elseif ($cert =~
    /VeriSign Class 3 Public Primary Certification Authority - G3/)
{
    $cert_alias = "verisignclass3g3ca";
}
elseif ($cert =~
    /RSA Data Security.*Secure Server Certification Authority/)
{
    $cert_alias = "rsaserverca";
}
elseif ($cert =~ /GTE CyberTrust Global Root/)
{
    $cert_alias = "gtecybertrustglobalca";
}
elseif ($cert =~ /Baltimore CyberTrust Root/)
{
    $cert_alias = "baltimorecybertrustca";
}
elseif ($cert =~ /www.entrust.net\Client_CA_Info\CPS/)
{
    $cert_alias = "entrustclientca";
}
elseif ($cert =~ /www.entrust.net\GCCA_CPS/)
{
    $cert_alias = "entrustglobalclientca";
}
elseif ($cert =~ /www.entrust.net\CPS_2048/)
{

```

```

    $cert_alias = "entrust2048ca";
}
elseif ($cert =~ /www.entrust.net/CPS incorp /)

{
    $cert_alias = "entrustsslca";
}
elseif ($cert =~ /www.entrust.net/SSL_CPS/)
{
    $cert_alias = "entrustgsslca";
}
elseif ($cert =~ /The Go Daddy Group/)
{
    $cert_alias = "godaddyclass2ca";
}
elseif ($cert =~ /Starfield Class 2 Certification Authority/)
{
    $cert_alias = "starfieldclass2ca";
}
elseif ($cert =~ /ValiCert Class 2 Policy Validation Authority/)
{
    $cert_alias = "valicertclass2ca";
}
elseif ($cert =~ /GeoTrust Global CA$/)
{
    $cert_alias = "geotrustglobalca";
}
elseif ($cert =~ /Equifax Secure Certificate Authority/)
{
    $cert_alias = "equifaxsecureca";
}
elseif ($cert =~ /Equifax Secure eBusiness CA-1/)
{
    $cert_alias = "equifaxsecureebusinessca1";
}
elseif ($cert =~ /Equifax Secure eBusiness CA-2/)
{
    $cert_alias = "equifaxsecureebusinessca2";
}
elseif ($cert =~ /Equifax Secure Global eBusiness CA-1/)
{
    $cert_alias = "equifaxsecureglobalebusinessca1";
}
elseif ($cert =~ /Sonera Class1 CA/)
{
    $cert_alias = "soneraclass1ca";
}
elseif ($cert =~ /Sonera Class2 CA/)

```

```

{
    $cert_alias = "soneraclass2ca";
}
elsif ($cert =~ /AAA Certificate Services/)
{
    $cert_alias = "comodoaaaca";
}
elsif ($cert =~ /AddTrust Class 1 CA Root/)
{
    $cert_alias = "addtrustclass1ca";
}
elsif ($cert =~ /AddTrust External CA Root/)
{
    $cert_alias = "addtrustexternalca";
}
elsif ($cert =~ /AddTrust Qualified CA Root/)
{
    $cert_alias = "addtrustqualifiedca";
}
elsif ($cert =~ /UTN-USERFirst-Hardware/)
{
    $cert_alias = "utnuserfirsthardwareca";
}
elsif ($cert =~ /UTN-USERFirst-Client Authentication and Email/)
{
    $cert_alias = "utnuserfirstclientauthemailca";
}
elsif ($cert =~ /UTN - DATACorp SGC/)
{
    $cert_alias = "utndatacorpsgccca";
}
elsif ($cert =~ /UTN-USERFirst-Object/)
{
    $cert_alias = "utnuserfirstobjectca";
}
elsif ($cert =~ /America Online Root Certification Authority 1/)
{
    $cert_alias = "aolrootca1";
}
elsif ($cert =~ /DigiCert Assured ID Root CA/)
{
    $cert_alias = "digicertassuredidrootca";
}
elsif ($cert =~ /DigiCert Global Root CA/)
{
    $cert_alias = "digicertglobalrootca";
}
elsif ($cert =~ /DigiCert High Assurance EV Root CA/)

```

```

    {
        $cert_alias = "digicerthighassuranceevrootca";
    }
    elif ($cert =~ /GlobalSign Root CA$/)
    {
        $cert_alias
= "globalsignca";
    }
    elif ($cert =~ /GlobalSign Root CA - R2/)
    {
        $cert_alias = "globalsignr2ca";
    }
    elif ($cert =~ /Elektronik.*Kas.*2005/)
    {
        $cert_alias = "extra-elektronikkas2005";
    }
    # Mozilla does not provide these certificates:
    # baltimorecodesigningca
    # gtecybertrust5ca
    # trustcenterclass2caii
    # trustcenterclass4caii
    # trustcenteruniversalcai
    else
    {
        # Generate an alias using the OU and CN attributes of the
        # Subject field if both are present, otherwise use only the
        # CN attribute. The Subject field must have either the OU
        # or the CN attribute.
        $_ = $cert;
        if ($cert =~ /OU=/)
        {
            s/Subject:.*?OU=//;
            # Remove other occurrences of OU=.
            s/OU=.*CN=//;
            # Remove CN= if there were not
other occurrences of OU=.
            s/CN=//;
            s/\/emailAddress.*//;
            s/Certificate Authority/ca/g;
            s/Certification Authority/ca/g;
        }
        elif ($cert =~ /CN=/)
        {
            s/Subject:.*CN=//;
            s/\/emailAddress.*//;
            s/Certificate Authority/ca/g;
            s/Certification Authority/ca/g;
        }
    }

```

```

    s/\W//g;
    tr/A-Z/a-z/;
    $cert_alias = "extra-$_";
}
print "$cert => alias $cert_alias\n";
}
# When it attempts to parse:
#
# Class 3 Public Primary Certification Authority - G2, Version 3
#
# keytool says:
#
# #2: ObjectId: 1.3.6.1.5.5.7.1.1 Criticality=false
# Unparseable AuthorityInfoAccess extension due to
# java.io.IOException: Invalid encoding of URI
#
# If we do not exclude this file
# openjdk/jdk/test/lib/security/cacerts/VerifyCACerts.java fails
# on this
cert, printing:
#
# Couldn't verify: java.security.SignatureException: Signature
# does not match.
#
elseif ($cert =~
    /A6:0F:34:C8:62:6C:81:F6:8B:F7:7D:A9:F6:67:58:8A:90:3F:7D:36/)
{
    $write_current_cert = 0;
    $pem_file_count--;
}
elseif ($cert eq "-----BEGIN CERTIFICATE-----\n")
{
    if ($in_cert_block != 0)
    {
        die "$file is malformed.";
    }
    $in_cert_block = 1;
    if ($write_current_cert == 1)
    {
        $pem_file_count++;
        print "writing $cert_alias.pem\n";
        sysopen(PEM, "$cert_alias.pem", O_WRONLY|O_CREAT|O_EXCL)
            || die("could not write file");
        print "opened $cert_alias";
        print PEM $cert;
        print "written $cert_alias.pem\n";
    }
}
}

```



```

elseif ($cert eq "-----END CERTIFICATE-----\n")
{
    $in_cert_block = 0;
    if ($write_current_cert == 1)
    {
        print PEM $cert;
        close(PEM);
    }
    $write_current_cert = 1
}
else
{
    if ($in_cert_block == 1 && $write_current_cert == 1)
    {
        print PEM $cert;
    }
}
}

# Check that the correct number of .pem files were produced.
@pem_files = <*.pem>;
if (@pem_files != $pem_file_count)
{
    print "$pem_file_count != ".@pem_files."\n";
    die "Number of .pem files produced does not match".
        " number of certs read from $file.";
}

# Now store each cert in the 'cacerts' file using keytool.
$certs_written_count = 0;
foreach $pem_file (@pem_files)
{
    system "/bin/echo yes | $ARGV[0] -import".
        " -alias `basename $pem_file .pem`".
        " -keystore cacerts -storepass 'changeit' -file $pem_file";
    unlink($pem_file);
    $certs_written_count++;
}

# Check that the correct number of certs were added to the keystore.
if ($certs_written_count != $pem_file_count)
{
    die "Number of certs added to keystore does not match".
        " number
of certs read from $file.";
}

```

Found in path(s):

```
* /opt/cola/permits/2005422292_1715245642.1702437/0/ca-certificates-2010.63-3.el6_1.5-1.src.rpm-cosi-expand-  
archive-E6GauXTs/generate-cacerts.pl
```

No license file was found, but licenses were detected in source scan.

License: Public Domain

Found in path(s):

```
* /opt/cola/permits/2005422292_1715245642.1702437/0/ca-certificates-2010.63-3.el6_1.5-1.src.rpm-cosi-expand-  
archive-E6GauXTs/ca-certificates.spec
```

No license file was found, but licenses were detected in source scan.

```
#
```

```
# ***** BEGIN LICENSE BLOCK *****
```

```
# Version: MPL 1.1/GPL 2.0/LGPL 2.1
```

```
#
```

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# The contents of this file are subject to the Mozilla Public License Version
```

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# 1.1 (the "License"); you may not use this file except in compliance with
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# WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License
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# for the specific language governing rights and limitations under the
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# License.
```

```
#
```

```
# The Original Code is the Netscape security libraries.
```

```
#
```

```
# The Initial Developer of the Original Code is
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# Netscape Communications Corporation.
```

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# Portions created by the Initial Developer are Copyright (C) 1994-2000
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# the Initial Developer. All Rights Reserved.
```

```
#
```

```
# Contributor(s):
```

```
#
```

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# Alternatively, the contents of this file may be used under the terms of
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```
# either the GNU General
```

```
Public License Version 2 or later (the "GPL"), or
```

```
# the GNU Lesser General Public License Version 2.1 or later (the "LGPL"),
```

```
# in which case the provisions of the GPL or the LGPL are applicable instead
```

```
# of those above. If you wish to allow use of your version of this file only
```

```
# under the terms of either the GPL or the LGPL, and not to allow others to
```

```
# use your version of this file under the terms of the MPL, indicate your
```

```
# decision by deleting the provisions above and replace them with the notice
```

```
# and other provisions required by the GPL or the LGPL. If you do not delete
```

```
# the provisions above, a recipient may use your version of this file under
```

```
# the terms of any one of the MPL, the GPL or the LGPL.
```

```
#
```

```
# ***** END LICENSE BLOCK *****
```

```

#
# certdata.txt
#
# This file contains the object definitions for the certs and other
# information "built into" NSS.
#
# Object definitions:
#
# Certificates
#
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS    CKO_CERTIFICATE
# CKA_TOKEN            CK_BBOOL          CK_TRUE
# CKA_PRIVATE          CK_BBOOL          CK_FALSE
# CKA_MODIFIABLE       CK_BBOOL          CK_FALSE
# CKA_LABEL            UTF8              (varies)
# CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE  CKC_X_509
# CKA_SUBJECT          DER+base64        (varies)
# CKA_ID               byte array        (varies)
# CKA_ISSUER           DER+base64        (varies)
# CKA_SERIAL_NUMBER   DER+base64        (varies)
# CKA_VALUE            DER+base64        (varies)
# CKA_NETSCAPE_EMAIL   ASCII7            (unused here)
#
# Trust
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS    CKO_TRUST
# CKA_TOKEN            CK_BBOOL
# CKA_PRIVATE          CK_BBOOL          CK_FALSE
# CKA_MODIFIABLE       CK_BBOOL          CK_FALSE
# CKA_LABEL            UTF8              (varies)
# CKA_ISSUER           DER+base64        (varies)
# CKA_SERIAL_NUMBER   DER+base64        (varies)
# CKA_CERT_HASH        binary+base64    (varies)
# CKA_EXPIRES          CK_DATE            (not used here)
# CKA_TRUST_DIGITAL_SIGNATURE CK_TRUST    (varies)
# CKA_TRUST_NON_REPUDIATION CK_TRUST    (varies)
# CKA_TRUST_KEY_ENCIPHERMENT CK_TRUST    (varies)
# CKA_TRUST_DATA_ENCIPHERMENT CK_TRUST    (varies)
# CKA_TRUST_KEY_AGREEMENT CK_TRUST    (varies)
# CKA_TRUST_KEY_CERT_SIGN CK_TRUST    (varies)
# CKA_TRUST_CRL_SIGN   CK_TRUST    (varies)
# CKA_TRUST_SERVER_AUTH CK_TRUST    (varies)

```

```

# CKA_TRUST_CLIENT_AUTH    CK_TRUST    (varies)
#
# CKA_TRUST_CODE_SIGNING   CK_TRUST    (varies)
# CKA_TRUST_EMAIL_PROTECTION CK_TRUST    (varies)
# CKA_TRUST_IPSEC_END_SYSTEM CK_TRUST    (varies)
# CKA_TRUST_IPSEC_TUNNEL   CK_TRUST    (varies)
# CKA_TRUST_IPSEC_USER     CK_TRUST    (varies)
# CKA_TRUST_TIME_STAMPING  CK_TRUST    (varies)
# CKA_TRUST_STEP_UP_APPROVED CK_BBOOL    (varies)
# (other trust attributes can be defined)
#

#
# The object to tell NSS that this is a root list and we don't
# have to go looking for others.
#
BEGINDATA
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_BUILTIN_ROOT_LIST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Mozilla Builtin Roots"

#
# Certificate "GTE CyberTrust Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTE CyberTrust Root CA"
CKA_CERTIFICATE_TYPE
CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\030\060\026\006\003\125\004\012\023\017\107\124\105\040\103\157
\162\160\157\162\141\164\151\157\156\061\034\060\032\006\003\125
\004\003\023\023\107\124\105\040\103\171\142\145\162\124\162\165
\163\164\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\030\060\026\006\003\125\004\012\023\017\107\124\105\040\103\157
\162\160\157\162\141\164\151\157\156\061\034\060\032\006\003\125
\004\003\023\023\107\124\105\040\103\171\142\145\162\124\162\165
\163\164\040\122\157\157\164
END

```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\001\243
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\372\060\202\001\143\002\002\001\243\060\015\006\011
\052\206\110\206\367\015\001\001\004\005\000\060\105\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\030\060\026\006\003
\125\004\012\023\017\107\124\105\040\103\157\162\160\157\162\141
\164\151\157\156\061\034\060\032\006\003\125\004\003\023\023\107
\124\105\040\103\171\142\145\162\124\162\165\163\164\040\122\157
\157\164\060\036\027\015\071\066\060\062\062\063\062\063\060\061
\060\060\132\027\015\060\066\060\062\062\063\062\063\065\071\060
\060\132\060\105\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\030\060\026\006\003\125\004\012\023\017\107\124\105\040
\103\157\162\160\157\162\141\164\151\157\156\061\034\060\032\006
\003\125\004\003\023\023\107\124\105\040\103\171\142\145\162\124
\162\165\163\164\040\122\157\157\164\060\201\237\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\201\215\000\060
\201\211\002\201\201\000\270\346\117\272\333\230\174\161\174\257
\104\267\323\017\106\331\144\345\223\301\102\216\307\272\111\215
\065\055\172\347\213\275\345\005\061\131\306\261\057\012\014\373
\237\247\077\242\011\146\204\126\036\067\051\033\207\351\176\014
\312\232\237\245\177\365\025\224\243\325\242\106\202\330\150\114
\321\067\025\006\150\257\275\370\260\263\360\051\365\225\132\011
\026\141\167\012\042\045\324\117\105\252\307\275\345\226\337\371
\324\250\216\102\314\044\300\036\221\047\112\265\155\006\200\143
\071\304\242\136\070\003\002\003\001\000\001\060\015\006\011\052
\206\110\206\367\015\001\001\004\005\000\003\201\201\000\022\263
\165\306\137\035\341\141\125\200\000\324\201\113\173\061\017\043
\143\347\075\363\003\371\364\066\250\273\331\343\245\227\115\352
\053\051\340\326\152\163\201\346\300\211\243\323\361\340\245\245
\042\067\232\143\302\110\040\264\333\162\343\310\366\331\174\276
\261\257\123\332\024\264\041\270\326\325\226\343\376\116\014\131
\142\266\232\112\371\102\335\214\157\201\251\161\377\364\012\162
\155\155\104\016\235\363\164\164\250\325\064\111\351\136\236\351
\264\172\341\345\132\037\204\060\234\323\237\245\045\330
END
```

```
#
Trust for Certificate "GTE CyberTrust Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTE CyberTrust Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\220\336\336\236\114\116\237\157\330\206\027\127\235\323\221\274
```

```

\145\246\211\144
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\304\327\360\262\243\305\175\141\147\360\004\315\103\323\272\130
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\030\060\026\006\003\125\004\012\023\017\107\124\105\040\103\157
\162\160\157\162\141\164\151\157\156\061\034\060\032\006\003\125
\004\003\023\023\107\124\105\040\103\171\142\145\162\124\162\165
\163\164\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\001\243
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTE CyberTrust Global Root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL
CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTE CyberTrust Global Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\030\060\026\006\003\125\004\012\023\017\107\124\105\040\103\157
\162\160\157\162\141\164\151\157\156\061\047\060\045\006\003\125
\004\013\023\036\107\124\105\040\103\171\142\145\162\124\162\165
\163\164\040\123\157\154\165\164\151\157\156\163\054\040\111\156
\143\056\061\043\060\041\006\003\125\004\003\023\032\107\124\105
\040\103\171\142\145\162\124\162\165\163\164\040\107\154\157\142
\141\154\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\030\060\026\006\003\125\004\012\023\017\107\124\105\040\103\157
\162\160\157\162\141\164\151\157\156\061\047\060\045\006\003\125
\004\013\023\036\107\124\105\040\103\171\142\145\162\124\162\165
\163\164\040\123\157\154\165\164\151\157\156\163\054\040\111\156
\143\056\061\043\060\041\006\003\125\004\003\023\032\107\124\105

```

\040\103\171\142\145\162\124\162\165\163\164\040\107\154\157\142  
\141\154\040\122\157\157\164  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\002\001\245  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\132\060\202\001\303\002\002\001\245\060\015\006\011  
\052\206\110\206\367\015\001\001\004\005\000\060\165\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\030\060\026\006\003  
\125\004\012\023\017\107\124\105\040\103\157\162\160\157\162\141  
\164\151\157\156\061\047\060\045\006\003\125\004\013\023\036\107  
\124\105\040\103\171\142\145\162\124\162\165\163\164\040\123\157  
\154\165\164\151\157\156\163\054\040\111\156\143\056\061\043\060  
\041\006\003\125\004\003\023\032\107\124\105\040\103\171\142\145  
\162\124\162\165\163\164\040\107\154\157\142\141\154\040\122\157  
\157\164\060\036\027\015\071\070\060\070\061\063\060\060\062\071  
\060\060\132\027\015\061\070\060\070\061\063\062\063\065\071\060  
\060\132\060\165\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\030\060\026\006\003\125\004\012\023\017\107\124\105\040  
\103\157\162\160\157\162\141\164\151\157\156\061\047\060\045\006  
\003\125\004\013\023\036\107\124\105\040\103\171\142\145\162\124  
\162\165\163\164\040\123\157\154\165\164\151\157\156\163\054\040  
\111\156\143\056\061\043\060\041\006\003\125\004\003\023\032\107  
\124\105\040\103\171\142\145\162\124\162\165\163\164\040\107\154  
\157\142\141\154\040\122\157\157\164\060\201\237\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\201\215\000\060  
\201\211\002\201\201\000\225\017\240\266\360\120\234\350\172\307  
\210\315\335\027\016\056\260\224\320\033\075\016\366\224\300\212  
\224\307\006\310\220\227\310\270\144\032\172\176\154\074\123\341  
\067\050\163\140\177\262\227\123\007\237\123\371\155\130\224\322  
\257\215\155\210\147\200\346\355\262\225\317\162\061\312\245\034  
\162\272\134\002\347\144\102\347\371\251\054\326\072\015\254\215  
\102\252\044\001\071\346\234\077\001\205\127\015\130\207\105\370  
\323\205\252\223\151\046\205\160\110\200\077\022\025\307\171\264  
\037\005\057\073\142\231\002\003\001\000\001\060\015\006\011\052  
\206\110\206\367\015\001\001\004\005\000\003\201\201\000\155\353  
\033\011\351\136\331\121\333\147\042\141\244\052\074\110\167\343  
\240\174\246\336\163\242\024\003\205\075\373\253\016\060\305\203  
\026\063\201\023\010\236\173\064\116\337\100\310\164\327\271\175  
\334\364\166\125\175\233\143\124\030\351\360\352\363\134\261\331  
\213\102\036\271\300\225\116\272\372\325\342\174\365\150\141\277  
\216\354\005\227\137\133\260\327\243\205\064\304\044\247\015\017  
\225\223\357\313\224\330\236\037\235\134\205\155\307\252\256\117  
\037\042\265\315\225\255\272\247\314\371\253\013\172\177  
END

```

#
Trust for Certificate "GTE CyberTrust Global Root"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTE CyberTrust Global Root"
CKA_CERT_SHA1_HASH
MULTILINE_OCTAL
\227\201\171\120\330\034\226\160\314\064\330\011\317\171\104\061
\066\176\364\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\312\075\323\150\361\003\134\320\062\372\270\053\131\350\132\333
END
CKA_ISSUER MULTILINE_OCTAL
\060\165\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\030\060\026\006\003\125\004\012\023\017\107\124\105\040\103\157
\162\160\157\162\141\164\151\157\156\061\047\060\045\006\003\125
\004\013\023\036\107\124\105\040\103\171\142\145\162\124\162\165
\163\164\040\123\157\154\165\164\151\157\156\163\054\040\111\156
\143\056\061\043\060\041\006\003\125\004\003\023\032\107\124\105
\040\103\171\142\145\162\124\162\165\163\164\040\107\154\157\142
\141\154\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\001\245
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

```

```

#
# Certificate "Thawte Personal Freemail CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Thawte Personal Freemail CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\321\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007
\023\011\103\141\160\145\040\124\157\167\156\061\032\060\030\006

```



\003\125\004\012\023\021\124\150\141\167\164\145\040\103\157\156  
\163\165\154\164\151\156\147\061\050\060\046\006\003\125\004\013  
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157  
\156\061\044\060\042\006\003\125\004\003\023\033\124\150\141\167  
\164\145\040\120\145\162\163\157\156\141\154\040\106\162\145\145  
\155\141\151\154\040\103\101\061\053\060\051\006\011\052\206\110  
\206\367\015\001\011\001\026\034\160\145\162\163\157\156\141\154  
\055\146\162\145\145\155\141\151\154\100\164\150\141\167\164\145  
\056\143\157\155

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\321\061\013\060\011\006\003\125\004\006\023\002\132\101  
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145  
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007  
\023\011\103\141\160\145\040\124\157\167\156\061\032\060\030\006  
\003\125\004\012\023\021\124\150\141\167\164\145\040\103\157\156  
\163\165\154\164\151\156\147\061\050\060\046\006\003\125\004\013  
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157  
\156\061\044\060\042\006\003\125\004\003\023\033\124\150\141\167  
\164\145\040\120\145\162\163\157\156\141\154\040\106\162\145\145  
\155\141\151\154\040\103\101\061\053\060\051\006\011\052\206\110  
\206\367\015\001\011\001\026\034\160\145\162\163\157\156\141\154  
\055\146\162\145\145\155\141\151\154\100\164\150\141\167\164\145  
\056\143\157\155

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\055\060\202\002\226\240\003\002\001\002\002\001\000  
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\201\321\061\013\060\011\006\003\125\004\006\023\002\132\101\061  
\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145\162  
\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007\023  
\011\103\141\160\145\040\124\157\167\156\061\032\060\030\006\003  
\125\004\012\023\021\124\150\141\167\164\145\040\103\157\156\163  
\165\154\164\151\156\147\061\050\060\046\006\003\125\004\013\023  
\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123  
\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157\156  
\061\044\060\042\006\003\125\004\003\023\033\124\150\141\167\164  
\145\040\120\145\162\163\157\156\141\154\040\106\162\145\145\155  
\141\151\154\040\103\101\061\053\060\051\006\011\052\206\110\206  
\367\015\001\011\001\026\034\160\145\162\163\157\156\141\154\055

\146\162\145\145\155\141\151\154\100\164\150\141\167\164\145\056  
\143\157\155\060\036\027\015\071\066\060\061\060\061\060\060\060  
\060\060\060\132\027\015\062\060\061\062\063\061\062\063\065\071  
\065\071\132\060\201\321\061\013\060\011\006\003\125\004\006\023  
\002\132\101\061\025\060\023\006\003\125\004\010\023\014\127\145  
\163\164\145\162\156\040\103\141\160\145\061\022\060\020\006\003  
\125\004\007\023\011\103\141\160\145\040\124\157\167\156\061\032  
\060\030\006\003\125\004\012\023\021\124\150\141\167\164\145\040  
\103\157\156\163\165\154\164\151\156\147\061\050\060\046\006\003  
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151  
\163\151\157\156\061\044\060\042\006\003\125\004\003\023\033\124  
\150\141\167\164\145\040\120\145\162\163\157\156\141\154\040\106  
\162\145\145\155\141\151\154\040\103\101\061\053\060\051\006\011  
\052\206\110\206\367\015\001\011\001\026\034\160\145\162\163\157  
\156\141\154\055\146\162\145\145\155\141\151\154\100\164\150\141  
\167\164\145\056\143\157\155\060\201\237\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\201\215\000\060\201\211  
\002\201\201\000\324\151\327\324\260\224\144\133\161\351\107\330  
\014\121\266\352\162\221\260\204\136\175\055\015\217\173\022\337  
\205\045\165\050\164\072\102\054\143\047\237\225\173\113\357\176  
\031\207\035\206\352\243\335\271\316\226\144\032\302\024\156\104  
\254\174\346\217\350\115\017\161\037\100\070\246\000\243\207\170  
\366\371\224\206\136\255\352\300\136\166\353\331\024\243\135\156  
\172\174\014\245\113\125\177\006\031\051\177\236\232\046\325\152  
\273\070\044\010\152\230\307\261\332\243\230\221\375\171\333\345  
\132\304\034\271\002\003\001\000\001\243\023\060\021\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015  
\006\011\052\206\110\206\367\015\001\001\004\005\000\003\201\201  
\000\307\354\222\176\116\370\365\226\245\147\142\052\244\360\115  
\021\140\320\157\215\140\130\141\254\046\273\122\065\134\010\317  
\060\373\250\112\226\212\037\142\102\043\214\027\017\364\272\144  
\234\027\254\107\051\337\235\230\136\322\154\140\161\134\242\254  
\334\171\343\347\156\000\107\037\265\015\050\350\002\235\344\232  
\375\023\364\246\331\174\261\370\334\137\043\046\011\221\200\163  
\320\024\033\336\103\251\203\045\362\346\234\057\025\312\376\246  
\253\212\007\165\213\014\335\121\204\153\344\370\321\316\167\242  
\201  
END

#

Trust for Certificate "Thawte Personal Freemail CA"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Thawte Personal Freemail CA"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\040\231\000\266\075\225\127\050\024\014\321\066\042\330\306\207  
\244\353\000\205

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\036\164\303\206\074\014\065\305\076\302\177\357\074\252\074\331

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\321\061\013\060\011\006\003\125\004\006\023\002\132\101  
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145  
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007  
\023\011\103\141\160\145\040\124\157\167\156\061\032\060\030\006  
\003\125\004\012\023\021\124\150\141\167\164\145\040\103\157\156  
\163\165\154\164\151\156\147\061\050\060\046\006\003\125\004\013  
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157  
\156\061\044\060\042\006\003\125\004\003\023\033\124\150\141\167  
\164\145\040\120\145\162\163\157\156\141\154\040\106\162\145\145  
\155\141\151\154\040\103\101\061\053\060\051\006\011\052\206\110  
\206\367\015\001\011\001\026\034\160\145\162\163\157\156\141\154  
\055\146\162\145\145\155\141\151\154\100\164\150\141\167\164\145  
\056\143\157\155

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_EMAIL\_PROTECTION

CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Thawte Server CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Thawte Server CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\304\061\013\060\011\006\003\125\004\006\023\002\132\101  
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145  
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007  
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006  
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156  
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003

\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151  
\163\151\157\156\061\031\060\027\006\003\125\004\003\023\020\124  
\150\141\167\164\145\040\123\145\162\166\145\162\040\103\101\061  
\046\060\044\006\011\052\206\110\206\367\015\001\011\001\026\027  
\163\145\162\166\145\162\055\143\145\162\164\163\100\164\150\141  
\167\164\145\056\143\157\155

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\304\061\013\060\011\006\003\125\004\006\023\002\132\101  
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145  
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007  
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006  
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156  
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003  
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151  
\163\151\157\156\061\031\060\027\006\003\125\004\003\023\020\124  
\150\141\167\164\145\040\123\145\162\166\145\162\040\103\101\061  
\046\060\044\006\011\052\206\110\206\367\015\001\011\001\026\027  
\163\145\162\166\145\162\055\143\145\162\164\163\100\164\150\141  
\167\164\145\056\143\157\155

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\023\060\202\002\174\240\003\002\001\002\002\001\001  
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\201\304\061\013\060\011\006\003\125\004\006\023\002\132\101\061  
\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145\162  
\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007\023  
\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006\003  
\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156\163  
\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003\125  
\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151\163  
\151\157\156\061\031\060\027\006\003\125\004\003\023\020\124\150  
\141\167\164\145\040\123\145\162\166\145\162\040\103\101\061\046  
\060\044\006\011\052\206\110\206\367\015\001\011\001\026\027\163  
\145\162\166\145\162\055\143\145\162\164\163\100\164\150\141\167  
\164\145\056\143\157\155\060\036\027\015\071\066\060\070\060\061  
\060\060\060\060\060\060\132\027\015\062\060\061\062\063\061\062  
\063\065\071\065\071\132\060\201\304\061\013\060\011\006\003\125  
\004\006\023\002\132\101\061\025\060\023\006\003\125\004\010\023

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\014\127\145\163\164\145\162\156\040\103\141\160\145\061\022\060
\020\006\003\125\004\007\023\011\103\141\160\145\040\124\157\167
\156\061\035\060\033\006\003\125\004\012\023\024\124\150\141\167
\164\145\040\103\157\156\163\165\154\164\151\156\147\040\143\143
\061\050\060\046\006\003\125\004\013\023\037\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145
\163\040\104\151\166\151\163\151\157\156\061\031\060\027\006\003
\125\004\003\023\020\124\150\141\167\164\145\040\123\145\162\166
\145\162\040\103\101\061\046\060\044\006\011\052\206\110\206\367
\015\001\011\001\026\027\163\145\162\166\145\162\055\143\145\162
\164\163\100\164\150\141\167\164\145\056\143\157\155\060\201\237
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\201\215\000\060\201\211\002\201\201\000\323\244\120\156\310\377
\126\153\346\317\135\266\352\014\150\165\107\242\252\302\332\204
\045\374\250\364\107\121\332\205\265\040\164\224\206\036\017\165
\311\351\010\141\365\006\155\060\156\025\031\002\351\122\300\142
\333\115\231\236\342\152\014\104\070\315\376\276\343\144\011\160
\305\376\261\153\051\266\057\111\310\073\324\047\004\045\020\227
\057\347\220\155\300\050\102\231\327\114\103\336\303\365\041\155
\124\237\135\303\130\341\300\344\331\133\260\270\334\264\173\337
\066\072\302\265\146\042\022\326\207\015\002\003\001\000\001\243
\023\060\021\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001
\004\005\000\003\201\201\000\007\372\114\151\134\373\225\314\106
\356\205\203\115\041\060\216\312\331\250\157\111\032\346\332\121
\343\140\160\154\204\141\021\241\032\310\110\076\131\103\175\117
\225\075\241\213\267\013\142\230\172\165\212\335\210\116\116\236
\100\333\250\314\062\164\271\157\015\306\343\263\104\013\331\212
\157\232\051\233\231\030\050\073\321\343\100\050\232\132\074\325
\265\347\040\033\213\312\244\253\215\351\121\331\342\114\054\131
\251\332\271\262\165\033\366\102\362\357\307\362\030\371\211\274
\243\377\212\043\056\160\107
```

END

#

Trust for Certificate "Thawte Server CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Thawte Server CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\043\345\224\224\121\225\362\101\110\003\264\325\144\322\243\243
\365\330\213\214
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\305\160\304\242\355\123\170\014\310\020\123\201\144\313\320\035
```

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\304\061\013\060\011\006\003\125\004\006\023\002\132\101  
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145  
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007  
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006  
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156  
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003  
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151  
\163\151\157\156\061\031\060\027\006\003\125\004\003\023\020\124  
\150\141\167\164\145\040\123\145\162\166\145\162\040\103\101\061  
\046\060\044\006\011\052\206\110\206\367\015\001\011\001\026\027  
\163\145\162\166\145\162\055\143\145\162\164\163\100\164\150\141  
\167\164\145\056\143\157\155

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Thawte Premium Server CA"

#

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Thawte Premium Server CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101  
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145  
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007  
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006  
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156  
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003  
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151  
\163\151\157\156\061\041\060\037\006\003\125\004\003\023\030\124  
\150\141\167\164\145\040\120\162\145\155\151\165\155\040\123\145  
\162\166\145\162\040\103\101\061\050\060\046\006\011\052\206\110  
\206\367\015\001\011\001\026\031\160\162\145\155\151\165\155\055  
\163\145\162\166\145\162\100\164\150\141\167\164\145\056\143\157

```
\155
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151
\163\151\157\156\061\041\060\037\006\003\125\004\003\023\030\124
\150\141\167\164\145\040\120\162\145\155\151\165\155\040\123\145
\162\166\145\162\040\103\101\061\050\060\046\006\011\052\206\110
\206\367\015\001\011\001\026\031\160\162\145\155\151\165\155\055
\163\145\162\166\145\162\100\164\150\141\167\164\145\056\143\157
\155
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\047\060\202\002\220\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\004\005\000\060
\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101\061
\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145\162
\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007\023
\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006\003
\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156\163
\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003\125
\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151\163
\151\157\156\061\041\060\037\006\003\125\004\003\023\030\124\150
\141\167\164\145\040\120\162\145\155\151\165\155\040\123\145\162
\166\145\162\040\103\101\061\050\060\046\006\011\052\206\110\206
\367\015\001\011\001\026\031\160\162\145\155\151\165\155\055\163
\145\162\166\145\162\100\164\150\141\167\164\145\056\143\157\155
\060\036\027\015\071\066\060\070\060\061\060\060\060\060\060\060
\132\027\015\062\060\061\062\063\061\062\063\065\071\065\071\132
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003
```

```
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151
\163\151\157\156\061\041\060\037\006\003\125\004\003\023\030\124
\150\141\167\164\145\040\120\162\145\155\151\165\155\040\123\145
\162\166\145\162\040\103\101\061\050\060\046\006\011\052\206\110
\206\367\015\001\011\001\026\031\160\162\145\155\151\165\155\055
\163\145\162\166\145\162\100\164\150\141\167\164\145\056\143\157
\155\060\201\237\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\201\215\000\060\201\211\002\201\201\000\322\066
\066\152\213\327\302\133\236\332\201\101\142\217\070\356\111\004
\125\326\320\357\034\033\225\026\107\357\030\110\065\072\122\364
\053\152\006\217\073\057\352\126\343\257\206\215\236\027\367\236
\264\145\165\002\115\357\313\011\242\041\121\330\233\320\147\320
\272\015\222\006\024\163\324\223\313\227\052\000\234\134\116\014
\274\372\025\122\374\362\104\156\332\021\112\156\010\237\057\055
\343\371\252\072\206\163\266\106\123\130\310\211\005\275\203\021
\270\163\077\252\007\215\364\102\115\347\100\235\034\067\002\003
\001\000\001\243\023\060\021\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206
\367\015\001\001\004\005\000\003\201\201\000\046\110\054\026\302
\130\372\350\026\164\014\252\252\137\124\077\362\327\311\170\140
\136\136\156\067\143\042\167\066\176\262\027\304\064\271\365\010
\205\374\311\001\070\377\115\276\362\026\102\103\347\273\132\106
\373\301\306\021\037\361\112\260\050\106\311\303\304\102\175\274
\372\253\131\156\325\267\121\210\021\343\244\205\031\153\202\114
\244\014\022\255\351\244\256\077\361\303\111\145\232\214\305\310
\076\045\267\224\231\273\222\062\161\007\360\206\136\355\120\047
\246\015\246\043\371\273\313\246\007\024\102
```

END

#

```
Trust for Certificate "Thawte Premium Server CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Thawte Premium Server CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\142\177\215\170\047\145\143\231\322\175\177\220\104\311\376\263
\363\076\372\232
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\006\237\151\171\026\146\220\002\033\214\214\242\303\007\157\072
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\316\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\022\060\020\006\003\125\004\007
```



```
\023\011\103\141\160\145\040\124\157\167\156\061\035\060\033\006
\003\125\004\012\023\024\124\150\141\167\164\145\040\103\157\156
\163\165\154\164\151\156\147\040\143\143\061\050\060\046\006\003
\125\004\013\023\037\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\123\145\162\166\151\143\145\163\040\104\151\166\151
\163\151\157\156\061\041\060\037\006\003\125\004\003\023\030\124
\150\141\167\164\145\040\120\162\145\155\151\165\155\040\123\145
\162\166\145\162\040\103\101\061\050\060\046\006\011\052\206\110
\206\367\015\001\011\001\026\031\160\162\145\155\151\165\155\055
\163\145\162\166\145\162\100\164\150\141\167\164\145\056\143\157
\155
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\001\001
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

#

Certificate "Equifax Secure CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Equifax Secure CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\012\023\007\105\161\165\151\146\141
\170\061\055\060\053\006\003\125\004\013\023\044\105\161\165\151
\146\141\170\040\123\145\143\165\162\145\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\012\023\007\105\161\165\151\146\141
\170\061\055\060\053\006\003\125\004\013\023\044\105\161\165\151
\146\141\170\040\123\145\143\165\162\145\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\065\336\364\317

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\040\060\202\002\211\240\003\002\001\002\002\004\065  
\336\364\317\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\116\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\020\060\016\006\003\125\004\012\023\007\105\161\165\151  
\146\141\170\061\055\060\053\006\003\125\004\013\023\044\105\161  
\165\151\146\141\170\040\123\145\143\165\162\145\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\060\036\027\015\071\070\060\070\062\062\061\066\064\061  
\065\061\132\027\015\061\070\060\070\062\062\061\066\064\061\065  
\061\132\060\116\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\020\060\016\006\003\125\004\012\023\007\105\161\165\151  
\146\141\170\061\055\060\053\006\003\125\004\013\023\044\105\161  
\165\151\146\141\170\040\123\145\143\165\162\145\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\060\201\237\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\201\215\000\060\201\211\002\201\201\000\301  
\135\261\130\147\010\142\356\240\232\055\037\010\155\221\024\150  
\230\012\036\376\332\004\157\023\204\142\041\303\321\174\316\237  
\005\340\270\001\360\116\064\354\342\212\225\004\144\254\361\153  
\123\137\005\263\313\147\200\277\102\002\216\376\335\001\011\354  
\341\000\024\117\374\373\360\014\335\103\272\133\053\341\037\200  
\160\231\025\127\223\026\361\017\227\152\267\302\150\043\034\314  
\115\131\060\254\121\036\073\257\053\326\356\143\105\173\305\331  
\137\120\322\343\120\017\072\210\347\277\024\375\340\307\271\002  
\003\001\000\001\243\202\001\011\060\202\001\005\060\160\006\003  
\125\035\037\004\151\060\147\060\145\240\143\240\141\244\137\060  
\135\061\013\060\011\006\003\125\004\006\023\002\125\123\061\020  
\060\016\006\003\125\004\012\023\007\105\161\165\151\146\141\170  
\061\055\060\053\006\003\125\004\013\023\044\105\161\165\151\146  
\141\170\040\123\145\143\165\162\145\040\103\145\162\164\151\146  
\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171\061  
\015\060\013\006\003\125\004\003\023\004\103\122\114\061\060\032  
\006\003\125\035\020\004\023\060\021\201\017\062\060\061\070\060  
\070\062\062\061\066\064\061\065\061\132\060\013\006\003\125\035  
\017\004\004\003\002\001\006\060\037\006\003\125\035\043\004\030  
\060\026\200\024\110\346\150\371\053\322\262\225\327\107\330\043  
\040\020\117\063\230\220\237\324\060\035\006\003\125\035\016\004  
\026\004\024\110\346\150\371\053\322\262\225\327\107\330\043\040  
\020\117\063\230\220\237\324\060\014\006\003\125\035\023\004\005  
\060\003\001\001\377\060\032\006\011\052\206\110\206\366\175\007  
\101\000\004\015\060\013\033\005\126\063\056\060\143\003\002\006  
\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\201\201\000\130\316\051\352\374\367\336\265\316\002\271\027  
\265\205\321\271\343\340\225\314\045\061\015\000\246\222\156\177

```
\266\222\143\236\120\225\321\232\157\344\021\336\143\205\156\230
\356\250\377\132\310\323\125\262\146\161\127\336\300\041\353\075
\052\247\043\111\001\004\206\102\173\374\356\177\242\026\122\265
\147\147\323\100\333\073\046\130\262\050\167\075\256\024\167\141
\326\372\052\146\047\240\015\372\247\163\134\352\160\361\224\041
\145\104\137\372\374\357\051\150\251\242\207\171\357\171\357\117
\254\007\167\070
END
```

```
#
```

```
Trust for Certificate "Equifax Secure CA"
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Equifax Secure CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\322\062\011\255\043\323\024\043\041\164\344\015\177\235\142\023
\227\206\143\072
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\147\313\235\300\023\044\212\202\233\262\027\036\321\033\354\324
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\012\023\007\105\161\165\151\146\141
\170\061\055\060\053\006\003\125\004\013\023\044\105\161\165\151
\146\141\170\040\123\145\143\165\162\145\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
```

```
END
```

```
CKA_SERIAL_NUMBER
```

```
MULTILINE_OCTAL
```

```
\002\004\065\336\364\317
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Digital Signature Trust Co. Global CA 1"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Digital Signature Trust Co. Global CA 1"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

CKA\_SUBJECT MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\044\060\042\006\003\125\004\012\023\033\104\151\147\151\164\141  
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163  
\164\040\103\157\056\061\021\060\017\006\003\125\004\013\023\010  
\104\123\124\103\101\040\105\061

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\044\060\042\006\003\125\004\012\023\033\104\151\147\151\164\141  
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163  
\164\040\103\157\056\061\021\060\017\006\003\125\004\013\023\010  
\104\123\124\103\101\040\105\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\066\160\025\226

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\051\060\202\002\222\240\003\002\001\002\002\004\066  
\160\025\226\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\106\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\044\060\042\006\003\125\004\012\023\033\104\151\147\151  
\164\141\154\040\123\151\147\156\141\164\165\162\145\040\124\162  
\165\163\164\040\103\157\056\061\021\060\017\006\003\125\004\013  
\023\010\104\123\124\103\101\040\105\061\060\036\027\015\071\070  
\061\062\061\060\061\070\061\060\062\063\132\027\015\061\070\061  
\062\061\060\061\070\064\060\062\063\132\060\106\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\044\060\042\006\003\125  
\004\012\023\033\104\151\147\151\164\141\154\040\123\151\147\156  
\141\164\165\162\145\040\124\162\165\163\164\040\103\157\056\061  
\021\060\017\006\003\125\004\013\023\010\104\123\124\103\101\040  
\105\061\060\201\235\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\201\213\000\060\201\207\002\201\201\000\240  
\154\201\251\317\064\036\044\335\376\206\050\314\336\203\057\371  
\136\324\102\322\350\164\140\146\023\230\006\034\251\121\022\151  
\157\061\125\271\111\162\000\010\176\323\245\142\104\067\044\231  
\217\331\203\110\217\231\155\225\023\273\103\073\056\111\116\210  
\067\301\273\130\177\376\341\275\370\273\141\315\363\107\300\231  
\246\361\363\221\350\170\174\000\313\141\311\104\047\161\151\125  
\112\176\111\115\355\242\243\276\002\114\000\312\002\250\356\001  
\002\061\144\017\122\055\023\164\166\066\265\172\264\055\161\002  
\001\003\243\202\001\044\060\202\001\040\060\021\006\011\140\206  
\110\001\206\370\102\001\001\004\004\003\002\000\007\060\150\006  
\003\125\035\037\004\141\060\137\060\135\240\133\240\131\244\127  
\060\125\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\044\060\042\006\003\125\004\012\023\033\104\151\147\151\164\141

```
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163
\164\040\103\157\056\061\021\060\017\006\003\125\004\013\023\010
\104\123\124\103\101\040\105\061\061\015\060\013\006\003\125\004
\003\023\004\103\122\114\061\060\053\006\003\125\035\020\004\044
\060\042\200\017\061\071\071\070\061\062\061\060\061\070\061\060
\062\063\132\201\017\062\060\061\070\061\062\061\060\061\070\061
\060\062\063\132\060\013\006\003\125\035\017\004\004\003\002\001
\006\060\037\006\003\125\035\043\004\030\060\026\200\024\152\171
\176\221\151\106\030\023\012\002\167\245\131\133\140\230\045\016
\242\370\060\035\006\003\125\035\016\004\026\004\024\152\171\176
\221\151\106\030\023\012\002\167\245\131\133\140\230\045\016\242
\370\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060
\031\006\011\052\206\110\206\366\175\007\101\000\004\014\060\012
\033\004\126\064\056\060\003\002\004\220\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\201\201\000\042\022\330
\172\035\334\201\006\266\011\145\262\207\310\037\136\264\057\351
\304\036\362\074\301\273\004\220\021\112\203\116\176\223\271\115
\102\307\222\046\240\134\064\232\070\162\370\375\153\026\076\040
\356\202\213\061\052\223\066\205\043\210\212\074\003\150\323\311
\011\017\115\374\154\244\332\050\162\223\016\211\200\260\175\376
\200\157\145\155\030\063\227\213\302\153\211\356\140\075\310\233
\357\177\053\062\142\163\223\313\074\343\173\342\166\170\105\274
\241\223\004\273\206\237\072\133\103\172\303\212\145
```

END

#

Trust for Certificate "Digital Signature Trust Co. Global CA 1"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "Digital Signature Trust Co. Global CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\201\226\213\072\357\034\334\160\365\372\062\151\302\222\243\143
\133\321\043\323
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\045\172\272\203\056\266\242\013\332\376\365\002\017\010\327\255
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\106\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\044\060\042\006\003\125\004\012\023\033\104\151\147\151\164\141
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163
\164\040\103\157\056\061\021\060\017\006\003\125\004\013\023\010
\104\123\124\103\101\040\105\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\004\066\160\025\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "Digital Signature Trust Co. Global CA 3"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Digital Signature Trust Co. Global CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\044\060\042\006\003\125\004\012\023\033\104\151\147\151\164\141
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163
\164\040\103\157\056\061\021\060\017\006\003\125\004\013\023\010
\104\123\124\103\101\040\105\062
```

```
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\044\060\042\006\003\125\004\012\023\033\104\151\147\151\164\141
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163
\164\040\103\157\056\061\021\060\017\006\003\125\004\013\023\010
\104\123\124\103\101\040\105\062
```

```
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\066\156\323\316
```

```
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\051\060\202\002\222\240\003\002\001\002\002\004\066
\156\323\316\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\106\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\044\060\042\006\003\125\004\012\023\033\104\151\147\151
\164\141\154\040\123\151\147\156\141\164\165\162\145\040\124\162
\165\163\164\040\103\157\056\061\021\060\017\006\003\125\004\013
\023\010\104\123\124\103\101\040\105\062\060\036\027\015\071\070
\061\062\060\071\061\071\061\067\062\066\132\027\015\061\070\061
\062\060\071\061\071\064\067\062\066\132\060\106\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\044\060\042\006\003\125
\004\012\023\033\104\151\147\151\164\141\154\040\123\151\147\156
\141\164\165\162\145\040\124\162\165\163\164\040\103\157\056\061
```

\021\060\017\006\003\125\004\013\023\010\104\123\124\103\101\040  
\105\062\060\201\235\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\201\213\000\060\201\207\002\201\201\000\277  
\223\217\027\222\357\063\023\030\353\020\177\116\026\277\377\006  
\217\052\205\274\136\371\044\246\044\210\266\003\267\301\303\137  
\003\133\321\157\256\176\102\352\146\043\270\143\203\126\373\050  
\055\341\070\213\264\356\250\001\341\316\034\266\210\052\042\106  
\205\373\237\247\160\251\107\024\077\316\336\145\360\250\161\367  
\117\046\154\214\274\306\265\357\336\111\047\377\110\052\175\350  
\115\003\314\307\262\122\306\027\061\023\073\265\115\333\310\304  
\366\303\017\044\052\332\014\235\347\221\133\200\315\224\235\002  
\001\003\243\202\001\044\060\202\001\040\060\021\006\011\140\206  
\110\001\206\370\102\001\001\004\004\003\002\000\007\060\150\006  
\003\125\035\037\004\141\060\137\060\135\240\133\240\131\244\127  
\060\125\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\044\060\042\006\003\125\004\012\023\033\104\151\147\151\164\141  
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163  
\164\040\103\157\056\061\021\060\017\006\003\125\004\013\023\010  
\104\123\124\103\101\040\105\062\061\015\060\013\006\003\125\004  
\003\023\004\103\122\114\061\060\053\006\003\125\035\020\004\044  
\060\042\200\017\061\071\071\070\061\062\060\071\061\071\061\067  
\062\066\132\201\017\062\060\061\070\061\062\060\071\061\071\061  
\067\062\066\132\060\013\006\003\125\035\017\004\004\003\002\001  
\006\060\037\006\003\125\035\043\004\030\060\026\200\024\036\202  
\115\050\145\200\074\311\101\156\254\065\056\132\313\336\356\370  
\071\133\060\035\006\003\125\035\016\004\026\004\024\036\202\115  
\050\145\200\074\311\101\156\254\065\056\132\313\336\356\370\071  
\133\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060  
\031\006\011\052\206\110\206\366\175\007\101\000\004\014\060\012  
\033\004\126\064\056\060\003\002\004\220\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\201\201\000\107\215\203  
\255\142\362\333\260\236\105\042\005\271\242\326\003\016\070\162  
\347\236\374\173\346\223\266\232\245\242\224\310\064\035\221\321  
\305\327\364\012\045\017\075\170\201\236\017\261\147\304\220\114  
\143\335\136\247\342\272\237\365\367\115\245\061\173\234\051\055  
\114\376\144\076\354\266\123\376\352\233\355\202\333\164\165\113  
\007\171\156\036\330\031\203\163\336\365\076\320\265\336\347\113  
\150\175\103\056\052\040\341\176\240\170\104\236\010\365\230\371  
\307\177\033\033\326\006\040\002\130\241\303\242\003

END

#

Trust for Certificate "Digital Signature Trust Co. Global CA 3"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Digital Signature Trust Co. Global CA 3"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\253\110\363\063\333\004\253\271\300\162\332\133\014\301\320\127
\360\066\233\106
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\223\302\216\021\173\324\363\003\031\275\050\165\023\112\105\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\044\060\042\006\003\125\004\012\023\033\104\151\147\151\164\141
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163
\164\040\103\157\056\061\021\060\017\006\003\125\004\013\023\010
\104\123\124\103\101\040\105\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\066\156\323\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 1 Public Primary Certification Authority"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151
\147\156\054\040\111\156\143\056\061\067\060\065\006\003\125\004
\013\023\056\103\154\141\163\163\040\061\040\120\165\142\154\151
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151
\147\156\054\040\111\156\143\056\061\067\060\065\006\003\125\004
\013\023\056\103\154\141\163\163\040\061\040\120\165\142\154\151

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\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146  
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\021\000\315\272\177\126\360\337\344\274\124\376\042\254\263  
\162\252\125

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\075\060\202\001\246\002\021\000\315\272\177\126\360  
\337\344\274\124\376\042\254\263\162\252\125\060\015\006\011\052  
\206\110\206\367\015\001\001\002\005\000\060\137\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125  
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\061\067\060\065\006\003\125\004\013\023\056\103\154\141  
\163\163\040\061\040\120\165\142\154\151\143\040\120\162\151\155  
\141\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\071  
\066\060\061\062\071\060\060\060\060\060\060\132\027\015\062\070  
\060\070\060\061\062\063\065\071\065\071\132\060\137\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\061\067\060\065\006\003\125\004\013\023\056\103\154  
\141\163\163\040\061\040\120\165\142\154\151\143\040\120\162\151  
\155\141\162\171\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\060\201\237\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\201  
\215\000\060\201\211\002\201\201\000\345\031\277\155\243\126\141  
\055\231\110\161\366\147\336\271\215\353\267\236\206\200\012\221  
\016\372\070\045\257\106\210\202\345\163\250\240\233\044\135\015  
\037\314\145\156\014\260\320\126\204\030\207\232\006\233\020\241  
\163\337\264\130\071\153\156\301\366\025\325\250\250\077\252\022  
\006\215\061\254\177\260\064\327\217\064\147\210\011\315\024\021  
\342\116\105\126\151\037\170\002\200\332\334\107\221\051\273\066  
\311\143\134\305\340\327\055\207\173\241\267\062\260\173\060\272  
\052\057\061\252\356\243\147\332\333\002\003\001\000\001\060\015  
\006\011\052\206\110\206\367\015\001\001\002\005\000\003\201\201  
\000\114\077\270\213\306\150\337\356\103\063\016\135\351\246\313  
\007\204\115\172\063\377\222\033\364\066\255\330\225\042\066\150  
\021\154\174\102\314\363\234\056\304\007\077\024\260\017\117\377  
\220\222\166\371\342\274\112\351\217\315\240\200\012\367\305\051  
\361\202\042\135\270\261\335\201\043\243\173\045\025\106\060\171  
\026\370\352\005\113\224\177\035\302\034\310\343\267\364\020\100  
\074\023\303\137\037\123\350\110\344\206\264\173\241\065\260\173  
\045\272\270\323\216\253\077\070\235\000\064\000\230\363\321\161  
\224

END

```

#
Trust for Certificate "Verisign Class 1 Public Primary Certification Authority"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\220\256\242\151\205\377\024\200\114\103\111\122\354\351\140\204
\167\257\125\157
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\227\140\350\127\137\323\120\107\345\103\014\224\066\212\260\142
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151
\147\156\054\040\111\156\143\056\061\067\060\065\006\003\125\004
\013\023\056\103\154\141\163\163\040\061\040\120\165\142\154\151
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\021\000\315\272\177\126\360\337\344\274\124\376\042\254\263
\162\252\125
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

#
# Certificate "Verisign Class 2 Public Primary Certification Authority"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151
\147\156\054\040\111\156\143\056\061\067\060\065\006\003\125\004
\013\023\056\103\154\141\163\163\040\062\040\120\165\142\154\151
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146

```

```
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151
\147\156\054\040\111\156\143\056\061\067\060\065\006\003\125\004
\013\023\056\103\154\141\163\163\040\062\040\120\165\142\154\151
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\055\033\374\112\027\215\243\221\353\347\377\365\213\105
\276\013
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\074\060\202\001\245\002\020\055\033\374\112\027\215
\243\221\353\347\377\365\213\105\276\013\060\015\006\011\052\206
\110\206\367\015\001\001\002\005\000\060\137\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004
\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143
\056\061\067\060\065\006\003\125\004\013\023\056\103\154\141\163
\163\040\062\040\120\165\142\154\151\143\040\120\162\151\155\141
\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\060\036\027\015\071\066
\060\061\062\071\060\060\060\060\060\060\132\027\015\062\070\060
\070\060\061\062\063\065\071\065\071\132\060\137\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156
\143\056\061\067\060\065\006\003\125\004\013\023\056\103\154\141
\163\163\040\062\040\120\165\142\154\151\143\040\120\162\151\155
\141\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\201\237\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\201\215
\000\060\201\211\002\201\201\000\266\132\213\243\015\152\043\203
\200\153\317\071\207\364\041\023\063\006\114\045\242\355\125\022
\227\305\247\200\271\372\203\301\040\240\372\057\025\015\174\241
\140\153\176\171\054\372\006\017\072\256\366\033\157\261\322\377
\057\050\122\137\203\175\113\304\172\267\370\146\037\200\124\374
\267\302\216\131\112\024\127\106\321\232\223\276\101\221\003\273
\025\200\223\134\353\347\314\010\154\077\076\263\112\374\377\113
\154\043\325\120\202\046\104\031\216\043\303\161\352\031\044\107
\004\236\165\277\310\246\000\037\002\003\001\000\001\060\015\006
\011\052\206\110\206\367\015\001\001\002\005\000\003\201\201\000
\212\033\053\372\071\301\164\327\136\330\031\144\242\130\112\055
```

```
\067\340\063\107\017\254\355\367\252\333\036\344\213\006\134\140
\047\312\105\122\316\026\357\077\006\144\347\224\150\174\140\063
\025\021\151\257\235\142\215\243\003\124\153\246\276\345\356\005
\030\140\004\277\102\200\375\320\250\250\036\001\073\367\243\134
\257\243\334\346\046\200\043\074\270\104\164\367\012\256\111\213
\141\170\314\044\277\210\212\247\016\352\163\031\101\375\115\003
\360\210\321\345\170\215\245\052\117\366\227\015\027\167\312\330
END
```

```
#
```

```
Trust for Certificate "Verisign Class 2 Public Primary Certification Authority"
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\147\202\252\340\355\356\342\032\130\071\323\300\315\024\150\012
\117\140\024\052
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\263\234\045\261\303\056\062\123\200\025\060\235\115\002\167\076
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\137\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151
\147\156\054\040\111\156\143\056\061\067\060\065\006\003\125\004
\013\023\056\103\154\141\163\163\040\062\040\120\165\142\154\151
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\055\033\374\112\027\215\243\221\353\347\377\365\213\105
\276\013
```

```
END
```

```
CKA_TRUST_SERVER_AUTH
```

```
CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Verisign Class 3 Public Primary Certification Authority"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 3 Public Primary Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151
\147\156\054\040\111\156\143\056\061\067\060\065\006\003\125\004
\013\023\056\103\154\141\163\163\040\063\040\120\165\142\154\151
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151
\147\156\054\040\111\156\143\056\061\067\060\065\006\003\125\004
\013\023\056\103\154\141\163\163\040\063\040\120\165\142\154\151
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\160\272\344\035\020\331\051\064\266\070\312\173\003\314
\272\277
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\074\060\202\001\245\002\020\160\272\344\035\020\331
\051\064\266\070\312\173\003\314\272\277\060\015\006\011\052\206
\110\206\367\015\001\001\002\005\000\060\137\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004
\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143
\056\061\067\060\065\006\003\125\004\013\023\056\103\154\141\163
\163\040\063\040\120\165\142\154\151\143\040\120\162\151\155\141
\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\060\036\027\015\071\066
\060\061\062\071\060\060\060\060\060\060\132\027\015\062\070\060
\070\060\061\062\063\065\071\065\071\132\060\137\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156
\143\056\061\067\060\065\006\003\125\004\013\023\056\103\154\141
\163\163\040\063\040\120\165\142\154\151\143\040\120\162\151\155
\141\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\201\237\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\201\215
\000\060\201\211\002\201\201\000\311\134\131\236\362\033\212\001
\024\264\020\337\004\100\333\343\127\257\152\105\100\217\204\014
```

```
\013\321\063\331\331\021\317\356\002\130\037\045\367\052\250\104
\005\252\354\003\037\170\177\236\223\271\232\000\252\043\175\326
\254\205\242\143\105\307\162\047\314\364\114\306\165\161\322\071
\357\117\102\360\165\337\012\220\306\216\040\157\230\017\370\254
\043\137\160\051\066\244\311\206\347\261\232\040\313\123\245\205
\347\075\276\175\232\376\044\105\063\334\166\025\355\017\242\161
\144\114\145\056\201\150\105\247\002\003\001\000\001\060\015\006
\011\052\206\110\206\367\015\001\001\002\005\000\003\201\201\000
\273\114\022\053\317\054\046\000\117\024\023\335\246\373\374\012
\021\204\214\363\050\034\147\222\057\174\266\305\372\337\360\350
\225\274\035\217\154\054\250\121\314\163\330\244\300\123\360\116
\326\046\300\166\001\127\201\222\136\041\361\321\261\377\347\320
\041\130\315\151\027\343\104\034\234\031\104\071\211\134\334\234
\000\017\126\215\002\231\355\242\220\105\114\344\273\020\244\075
\360\062\003\016\361\316\370\350\311\121\214\346\142\237\346\237
\300\175\267\162\234\311\066\072\153\237\116\250\377\144\015\144
END
```

#

Trust for Certificate "Verisign Class 3 Public Primary Certification Authority"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 3 Public Primary Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\164\054\061\222\346\007\344\044\353\105\111\124\053\341\273\305
\076\141\164\342
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\020\374\143\135\366\046\076\015\363\045\276\137\171\315\147\147
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\137\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151
\147\156\054\040\111\156\143\056\061\067\060\065\006\003\125\004
\013\023\056\103\154\141\163\163\040\063\040\120\165\142\154\151
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\160\272\344\035\020\331\051\064\266\070\312\173\003\314
\272\277
```

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Verisign Class 1 Public Primary Certification Authority - G2"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125  
\004\013\023\063\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013  
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040  
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157  
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125  
\004\013\023\063\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013  
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040  
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157  
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\114\307\352\252\230\076\161\323\223\020\370\075\072\211  
\221\222

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\002\060\202\002\153\002\020\114\307\352\252\230\076  
\161\323\223\020\370\075\072\211\221\222\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\060\201\301\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125  
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\061\074\060\072\006\003\125\004\013\023\063\103\154\141  
\163\163\040\061\040\120\165\142\154\151\143\040\120\162\151\155  
\141\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\062  
\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040\061  
\071\071\070\040\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\037\060\035  
\006\003\125\004\013\023\026\126\145\162\151\123\151\147\156\040  
\124\162\165\163\164\040\116\145\164\167\157\162\153\060\036\027  
\015\071\070\060\065\061\070\060\060\060\060\060\060\132\027\015  
\062\070\060\070\060\061\062\063\065\071\065\071\132\060\201\301  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060  
\025\006\003\125\004\012\023\016\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\061\074\060\072\006\003\125\004\013\023  
\063\103\154\141\163\163\040\061\040\120\165\142\154\151\143\040  
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\062\061\072\060\070\006\003\125\004\013\023\061\050  
\143\051\040\061\071\071\070\040\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123  
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162  
\153\060\201\237\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\201\215\000\060\201\211\002\201\201\000\252\320  
\272\276\026\055\270\203\324\312\322\017\274\166\061\312\224\330  
\035\223\214\126\002\274\331\157\032\157\122\066\156\165\126\012  
\125\323\337\103\207\041\021\145\212\176\217\275\041\336\153\062  
\077\033\204\064\225\005\235\101\065\353\222\353\226\335\252\131  
\077\001\123\155\231\117\355\345\342\052\132\220\301\271\304\246  
\025\317\310\105\353\246\135\216\234\076\360\144\044\166\245\315  
\253\032\157\266\330\173\121\141\156\246\177\207\310\342\267\345  
\064\334\101\210\352\011\100\276\163\222\075\153\347\165\002\003  
\001\000\001\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\003\201\201\000\251\117\303\015\307\147\276\054\313\331  
\250\315\055\165\347\176\025\236\073\162\353\176\353\134\055\011  
\207\326\153\155\140\174\345\256\305\220\043\014\134\112\320\257  
\261\135\363\307\266\012\333\340\025\223\015\335\003\274\307\166  
\212\265\335\117\303\233\023\165\270\001\300\346\311\133\153\245  
\270\211\334\254\244\335\162\355\116\241\367\117\274\006\323\352



```
\310\144\164\173\302\225\101\234\145\163\130\361\220\232\074\152
\261\230\311\304\207\274\317\105\155\105\342\156\042\077\376\274
\017\061\134\350\362\331
END
```

```
#
```

```
Trust for Certificate "Verisign Class 1 Public Primary Certification Authority - G2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\047\076\341\044\127\375\304\371\014\125\350\053\126\026\177\142
\365\062\345\107
END
```

```
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\333\043\075\371\151\372\113\271\225\200\104\163\136\175\101\203
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125
\004\013\023\063\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164
\167\157\162\153
END
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CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\114\307\352\252\230\076\161\323\223\020\370\075\072\211
\221\222
END
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CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Verisign Class 2 Public Primary Certification Authority - G2"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125
\004\013\023\063\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164
\167\157\162\153
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125
\004\013\023\063\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164
\167\157\162\153
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\021\000\271\057\140\314\210\237\241\172\106\011\270\133\160
\154\212\257
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\003\060\202\002\154\002\021\000\271\057\140\314\210
\237\241\172\106\011\270\133\160\154\212\257\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\060\201\301\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
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\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\061\074\060\072\006\003\125\004\013\023\063\103\154  
\141\163\163\040\062\040\120\165\142\154\151\143\040\120\162\151  
\155\141\162\171\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107  
\062\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040  
\061\071\071\070\040\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\037\060  
\035\006\003\125\004\013\023\026\126\145\162\151\123\151\147\156  
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\060\036  
\027\015\071\070\060\065\061\070\060\060\060\060\060\132\027  
\015\062\070\060\070\060\061\062\063\065\071\065\071\132\060\201  
\301\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027  
\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151\147  
\156\054\040\111\156\143\056\061\074\060\072\006\003\125\004\013  
\023\063\103\154\141\163\163\040\062\040\120\165\142\154\151\143  
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\055\040\107\062\061\072\060\070\006\003\125\004\013\023\061  
\050\143\051\040\061\071\071\070\040\126\145\162\151\123\151\147  
\156\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165  
\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154  
\171\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151  
\123\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157  
\162\153\060\201\237\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\201\215\000\060\201\211\002\201\201\000\247  
\210\001\041\164\054\347\032\003\360\230\341\227\074\017\041\010  
\361\234\333\227\351\232\374\302\004\006\023\276\137\122\310\314  
\036\054\022\126\054\270\001\151\054\314\231\037\255\260\226\256  
\171\004\362\023\071\301\173\230\272\010\054\350\302\204\023\054  
\252\151\351\011\364\307\251\002\244\102\302\043\117\112\330\360  
\016\242\373\061\154\311\346\157\231\047\007\365\346\364\114\170  
\236\155\353\106\206\372\271\206\311\124\362\262\304\257\324\106  
\034\132\311\025\060\377\015\154\365\055\016\155\316\177\167\002  
\003\001\000\001\060\015\006\011\052\206\110\206\367\015\001\001  
\005\005\000\003\201\201\000\162\056\371\177\321\361\161\373\304  
\236\366\305\136\121\212\100\230\270\150\370\233\034\203\330\342  
\235\275\377\355\241\346\146\352\057\011\364\312\327\352\245\053  
\225\366\044\140\206\115\104\056\203\245\304\055\240\323\256\170  
\151\157\162\332\154\256\010\360\143\222\067\346\273\304\060\027  
\255\167\314\111\065\252\317\330\217\321\276\267\030\226\107\163  
\152\124\042\064\144\055\266\026\233\131\133\264\121\131\072\263  
\013\024\364\022\337\147\240\364\255\062\144\136\261\106\162\047  
\214\022\173\305\104\264\256

END

#

```

Trust for Certificate "Verisign Class 2 Public Primary Certification Authority - G2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\263\352\304\107\166\311\310\034\352\362\235\225\266\314\240\010
\033\147\354\235
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\055\273\345\045\323\321\145\202\072\267\016\372\346\353\342\341
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125
\004\013\023\063\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164
\167\157\162\153
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\271\057\140\314\210\237\241\172\106\011\270\133\160
\154\212\257
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 3 Public Primary Certification Authority - G2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 3 Public Primary Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA\_SUBJECT MULTILINE\_OCTAL

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\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125  
\004\013\023\063\103\154\141\163\163\040\063\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013  
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040  
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157  
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125  
\004\013\023\063\103\154\141\163\163\040\063\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013  
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040  
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157  
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\175\331\376\007\317\250\036\267\020\171\147\373\247\211  
\064\306

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\002\060\202\002\153\002\020\175\331\376\007\317\250  
\036\267\020\171\147\373\247\211\064\306\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\060\201\301\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125  
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\061\074\060\072\006\003\125\004\013\023\063\103\154\141  
\163\163\040\063\040\120\165\142\154\151\143\040\120\162\151\155  
\141\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\062  
\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040\061

\071\071\070\040\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\037\060\035  
\006\003\125\004\013\023\026\126\145\162\151\123\151\147\156\040  
\124\162\165\163\164\040\116\145\164\167\157\162\153\060\036\027  
\015\071\070\060\065\061\070\060\060\060\060\060\060\132\027\015  
\062\070\060\070\060\061\062\063\065\071\065\071\132\060\201\301  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060  
\025\006\003\125\004\012\023\016\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\061\074\060\072\006\003\125\004\013\023  
\063\103\154\141\163\163\040\063\040\120\165\142\154\151\143\040  
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\062\061\072\060\070\006\003\125\004\013\023\061\050  
\143\051\040\061\071\071\070\040\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123  
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162  
\153\060\201\237\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\201\215\000\060\201\211\002\201\201\000\314\136  
\321\021\135\134\151\320\253\323\271\152\114\231\037\131\230\060  
\216\026\205\040\106\155\107\077\324\205\040\204\341\155\263\370  
\244\355\014\361\027\017\073\371\247\371\045\327\301\317\204\143  
\362\174\143\317\242\107\362\306\133\063\216\144\100\004\150\301  
\200\271\144\034\105\167\307\330\156\365\225\051\074\120\350\064  
\327\170\037\250\272\155\103\221\225\217\105\127\136\176\305\373  
\312\244\004\353\352\227\067\124\060\157\273\001\107\062\063\315  
\334\127\233\144\151\141\370\233\035\034\211\117\134\147\002\003  
\001\000\001\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\003\201\201\000\121\115\315\276\134\313\230\031\234\025  
\262\001\071\170\056\115\017\147\160\160\231\306\020\132\224\244  
\123\115\124\155\053\257\015\135\100\213\144\323\327\356\336\126  
\141\222\137\246\304\035\020\141\066\323\054\047\074\350\051\011  
\271\021\144\164\314\265\163\237\034\110\251\274\141\001\356\342  
\027\246\014\343\100\010\073\016\347\353\104\163\052\232\361\151  
\222\357\161\024\303\071\254\161\247\221\011\157\344\161\006\263  
\272\131\127\046\171\000\366\370\015\242\063\060\050\324\252\130  
\240\235\235\151\221\375

END

#

Trust for Certificate "Verisign Class 3 Public Primary Certification Authority - G2"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 3 Public Primary Certification Authority - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\205\067\034\246\345\120\024\075\316\050\003\107\033\336\072\011  
\350\370\167\017  
END

CKA\_CERT\_MD5\_HASH  
MULTILINE\_OCTAL  
\242\063\233\114\164\170\163\324\154\347\301\363\215\313\134\351  
END

CKA\_ISSUER MULTILINE\_OCTAL  
\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125  
\004\013\023\063\103\154\141\163\163\040\063\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013  
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040  
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157  
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153  
END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\175\331\376\007\317\250\036\267\020\171\147\373\247\211  
\064\306  
END

CKA\_TRUST\_SERVER\_AUTH  
CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#  
# Certificate "Verisign Class 4 Public Primary Certification Authority - G2"  
#  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Verisign Class 4 Public Primary Certification Authority - G2"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125  
\004\013\023\063\103\154\141\163\163\040\064\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151

\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013  
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040  
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157  
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125  
\004\013\023\063\103\154\141\163\163\040\064\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013  
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040  
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157  
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\062\210\216\232\322\365\353\023\107\370\177\304\040\067  
\045\370

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\002\060\202\002\153\002\020\062\210\216\232\322\365  
\353\023\107\370\177\304\040\067\045\370\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\060\201\301\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125  
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\061\074\060\072\006\003\125\004\013\023\063\103\154\141  
\163\163\040\064\040\120\165\142\154\151\143\040\120\162\151\155  
\141\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\062  
\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040\061  
\071\071\070\040\126\145\162\151\123\151\147\156\054\040\111\156  
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\037\060\035  
\006\003\125\004\013\023\026\126\145\162\151\123\151\147\156\040  
\124\162\165\163\164\040\116\145\164\167\157\162\153\060\036\027  
\015\071\070\060\065\061\070\060\060\060\060\060\060\132\027\015



\062\070\060\070\060\061\062\063\065\071\065\071\132\060\201\301  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060  
\025\006\003\125\004\012\023\016\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\061\074\060\072\006\003\125\004\013\023  
\063\103\154\141\163\163\040\064\040\120\165\142\154\151\143\040  
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\062\061\072\060\070\006\003\125\004\013\023\061\050  
\143\051\040\061\071\071\070\040\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123  
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162  
\153\060\201\237\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\201\215\000\060\201\211\002\201\201\000\272\360  
\344\317\371\304\256\205\124\271\007\127\371\217\305\177\150\021  
\370\304\027\260\104\334\343\060\163\325\052\142\052\270\320\314  
\034\355\050\133\176\275\152\334\263\221\044\312\101\142\074\374  
\002\001\277\034\026\061\224\005\227\166\156\242\255\275\141\027  
\154\116\060\206\360\121\067\052\120\307\250\142\201\334\133\112  
\252\301\240\264\156\353\057\345\127\305\261\053\100\160\333\132  
\115\241\216\037\275\003\037\330\003\324\217\114\231\161\274\342  
\202\314\130\350\230\072\206\323\206\070\363\000\051\037\002\003  
\001\000\001\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\003\201\201\000\205\214\022\301\247\271\120\025\172\313  
\076\254\270\103\212\334\252\335\024\272\211\201\176\001\074\043  
\161\041\210\057\202\334\143\372\002\105\254\105\131\327\052\130  
\104\133\267\237\201\073\222\150\075\342\067\044\365\173\154\217  
\166\065\226\011\250\131\235\271\316\043\253\164\326\203\375\062  
\163\047\330\151\076\103\164\366\256\305\211\232\347\123\174\351  
\173\366\113\363\301\145\203\336\215\212\234\074\210\215\071\131  
\374\252\077\042\215\241\301\146\120\201\162\114\355\042\144\117  
\117\312\200\221\266\051

END

#

Trust for Certificate "Verisign Class 4 Public Primary Certification Authority - G2"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 4 Public Primary Certification Authority - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\013\167\276\273\313\172\242\107\005\336\314\017\275\152\002\374

\172\275\233\122

END

CKA\_CERT\_MD5\_HASH

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MULTILINE_OCTAL
\046\155\054\031\230\266\160\150\070\120\124\031\354\220\064\140
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\301\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\074\060\072\006\003\125
\004\013\023\063\103\154\141\163\163\040\064\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\062\061\072\060\070\006\003\125\004\013
\023\061\050\143\051\040\061\071\071\070\040\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\037\060\035\006\003\125\004\013\023\026\126\145
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164
\167\157\162\153
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\062\210\216\232\322\365\353\023\107\370\177\304\040\067
\045\370
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061

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\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154  
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003  
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031  
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147  
\156\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\013\004\000\000\000\000\001\025\113\132\303\224

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\165\060\202\002\135\240\003\002\001\002\002\013\004  
\000\000\000\000\001\025\113\132\303\224\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\060\127\061\013\060\011\006  
\003\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004  
\012\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166  
\055\163\141\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\033\060\031\006\003\125\004\003\023\022  
\107\154\157\142\141\154\123\151\147\156\040\122\157\157\164\040  
\103\101\060\036\027\015\071\070\060\071\060\061\061\062\060\060  
\060\060\132\027\015\062\070\060\061\062\070\061\062\060\060\060  
\060\132\060\127\061\013\060\011\006\003\125\004\006\023\002\102  
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142  
\141\154\123\151\147\156\040\156\166\055\163\141\061\020\060\016  
\006\003\125\004\013\023\007\122\157\157\164\040\103\101\061\033  
\060\031\006\003\125\004\003\023\022\107\154\157\142\141\154\123  
\151\147\156\040\122\157\157\164\040\103\101\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\332\016\346\231  
\215\316\243\343\117\212\176\373\361\213\203\045\153\352\110\037  
\361\052\260\271\225\021\004\275\360\143\321\342\147\146\317\034  
\335\317\033\110\053\356\215\211\216\232\257\051\200\145\253\351  
\307\055\022\313\253\034\114\160\007\241\075\012\060\315\025\215  
\117\370\335\324\214\120\025\034\357\120\356\304\056\367\374\351  
\122\362\221\175\340\155\325\065\060\216\136\103\163\362\101\351  
\325\152\343\262\211\072\126\071\070\157\006\074\210\151\133\052  
\115\305\247\124\270\154\211\314\233\371\074\312\345\375\211\365  
\022\074\222\170\226\326\334\164\156\223\104\141\321\215\307\106  
\262\165\016\206\350\031\212\325\155\154\325\170\026\225\242\351  
\310\012\070\353\362\044\023\117\163\124\223\023\205\072\033\274  
\036\064\265\213\005\214\271\167\213\261\333\037\040\221\253\011  
\123\156\220\316\173\067\164\271\160\107\221\042\121\143\026\171  
\256\261\256\101\046\010\310\031\053\321\106\252\110\326\144\052  
\327\203\064\377\054\052\301\154\031\103\112\007\205\347\323\174  
\366\041\150\357\352\362\122\237\177\223\220\317\002\003\001\000  
\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004

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\024\140\173\146\032\105\015\227\312\211\120\057\175\004\315\064
\250\377\374\375\113\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\326\163\347\174\117\166\320
\215\277\354\272\242\276\064\305\050\062\265\174\374\154\234\054
\053\275\011\236\123\277\153\136\252\021\110\266\345\010\243\263
\312\075\141\115\323\106\011\263\076\303\240\343\143\125\033\362
\272\357\255\071\341\103\271\070\243\346\057\212\046\073\357\240
\120\126\371\306\012\375\070\315\304\013\160\121\224\227\230\004
\337\303\137\224\325\025\311\024\101\234\304\135\165\144\025\015
\377\125\060\354\206\217\377\015\357\054\271\143\106\366\252\374
\337\274\151\375\056\022\110\144\232\340\225\360\246\357\051\217
\001\261\025\265\014\035\245\376\151\054\151\044\170\036\263\247
\034\161\142\356\312\310\227\254\027\135\212\302\370\107\206\156
\052\304\126\061\225\320\147\211\205\053\371\154\246\135\106\235
\014\252\202\344\231\121\335\160\267\333\126\075\141\344\152\341
\134\326\366\376\075\336\101\314\007\256\143\122\277\123\123\364
\053\351\307\375\266\367\202\137\205\322\101\030\333\201\263\004
\034\305\037\244\200\157\025\040\311\336\014\210\012\035\326\146
\125\342\374\110\311\051\046\151\340
```

END

#

Trust for Certificate "GlobalSign Root CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GlobalSign Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\261\274\226\213\324\364\235\142\052\250\232\201\362\025\001\122
\244\035\202\234
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\076\105\122\025\011\121\222\341\267\135\067\237\261\207\051\212
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\013\004\000\000\000\000\001\025\113\132\303\224
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END

CKA\_TRUST\_SERVER\_AUTH

```
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "GlobalSign Root CA - R2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\062\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

```
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\062\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
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END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\017\206\046\346\015
```

```
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\272\060\202\002\242\240\003\002\001\002\002\013\004
\000\000\000\000\001\017\206\046\346\015\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\114\061\040\060\036\006
\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147\156
\040\122\157\157\164\040\103\101\040\055\040\122\062\061\023\060
\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123\151
\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154\157
\142\141\154\123\151\147\156\060\036\027\015\060\066\061\062\061
\065\060\070\060\060\060\060\132\027\015\062\061\061\062\061\065
\060\070\060\060\060\060\132\060\114\061\040\060\036\006\003\125
\004\013\023\027\107\154\157\142\141\154\123\151\147\156\040\122
\157\157\164\040\103\101\040\055\040\122\062\061\023\060\021\006
\003\125\004\012\023\012\107\154\157\142\141\154\123\151\147\156
\061\023\060\021\006\003\125\004\003\023\012\107\154\157\142\141
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\154\123\151\147\156\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\246\317\044\016\276\056\157\050\231\105  
\102\304\253\076\041\124\233\013\323\177\204\160\372\022\263\313  
\277\207\137\306\177\206\323\262\060\134\326\375\255\361\173\334  
\345\370\140\226\011\222\020\365\320\123\336\373\173\176\163\210  
\254\122\210\173\112\246\312\111\246\136\250\247\214\132\021\274  
\172\202\353\276\214\351\263\254\226\045\007\227\112\231\052\007  
\057\264\036\167\277\212\017\265\002\174\033\226\270\305\271\072  
\054\274\326\022\271\353\131\175\342\320\006\206\137\136\111\152  
\265\071\136\210\064\354\274\170\014\010\230\204\154\250\315\113  
\264\240\175\014\171\115\360\270\055\313\041\312\325\154\133\175  
\341\240\051\204\241\371\323\224\111\313\044\142\221\040\274\335  
\013\325\331\314\371\352\047\012\053\163\221\306\235\033\254\310  
\313\350\340\240\364\057\220\213\115\373\260\066\033\366\031\172  
\205\340\155\362\141\023\210\134\237\340\223\012\121\227\212\132  
\316\257\253\325\367\252\011\252\140\275\334\331\137\337\162\251  
\140\023\136\000\001\311\112\372\077\244\352\007\003\041\002\216  
\202\312\003\302\233\217\002\003\001\000\001\243\201\234\060\201  
\231\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\035\006\003\125\035\016\004\026\004\024\233\342\007  
\127\147\034\036\300\152\006\336\131\264\232\055\337\334\031\206  
\056\060\066\006\003\125\035\037\004\057\060\055\060\053\240\051  
\240\047\206\045\150\164\164\160\072\057\057\143\162\154\056\147  
\154\157\142\141\154\163\151\147\156\056\156\145\164\057\162\157  
\157\164\055\162\062\056\143\162\154\060\037\006\003\125\035\043  
\004\030\060\026\200\024\233\342\007\127\147\034\036\300\152\006  
\336\131\264\232\055\337\334\031\206\056\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\231\201  
\123\207\034\150\227\206\221\354\340\112\270\104\013\253\201\254  
\047\117\326\301\270\034\103\170\263\014\232\374\352\054\074\156  
\141\033\115\113\051\365\237\005\035\046\301\270\351\203\000\142  
\105\266\251\010\223\271\251\063\113\030\232\302\370\207\210\116  
\333\335\161\064\032\301\124\332\106\077\340\323\052\253\155\124  
\042\365\072\142\315\040\157\272\051\211\327\335\221\356\323\134  
\242\076\241\133\101\365\337\345\144\103\055\351\325\071\253\322  
\242\337\267\213\320\300\200\031\034\105\300\055\214\350\370\055  
\244\164\126\111\305\005\265\117\025\336\156\104\170\071\207\250  
\176\273\363\171\030\221\273\364\157\235\301\360\214\065\214\135  
\001\373\303\155\271\357\104\155\171\106\061\176\012\376\251\202  
\301\377\357\253\156\040\304\120\311\137\235\115\233\027\214\014  
\345\001\311\240\101\152\163\123\372\245\120\264\156\045\017\373  
\114\030\364\375\122\331\216\151\261\350\021\017\336\210\330\373  
\035\111\367\252\336\225\317\040\170\302\140\022\333\045\100\214  
\152\374\176\102\070\100\144\022\367\236\201\341\223\056

END

```

#
Trust for Certificate "GlobalSign Root CA - R2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\165\340\253\266\023\205\022\047\034\004\370\137\335\336\070\344
\267\044\056\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\224\024\167\176\076\136\375\217\060\275\101\260\317\347\320\060
END
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\062\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\017\206\046\346\015
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

#
# Certificate "ValiCert Class 1 VA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ValiCert Class 1 VA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\273\061\044\060\042\006\003\125\004\007\023\033\126\141
\154\151\103\145\162\164\040\126\141\154\151\144\141\164\151\157
\156\040\116\145\164\167\157\162\153\061\027\060\025\006\003\125
\004\012\023\016\126\141\154\151\103\145\162\164\054\040\111\156
\143\056\061\065\060\063\006\003\125\004\013\023\054\126\141\154
\151\103\145\162\164\040\103\154\141\163\163\040\061\040\120\157
\154\151\143\171\040\126\141\154\151\144\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\061\041\060\037\006\003\125

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\004\003\023\030\150\164\164\160\072\057\057\167\167\167\056\166  
\141\154\151\143\145\162\164\056\143\157\155\057\061\040\060\036  
\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156\146  
\157\100\166\141\154\151\143\145\162\164\056\143\157\155

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\273\061\044\060\042\006\003\125\004\007\023\033\126\141  
\154\151\103\145\162\164\040\126\141\154\151\144\141\164\151\157  
\156\040\116\145\164\167\157\162\153\061\027\060\025\006\003\125  
\004\012\023\016\126\141\154\151\103\145\162\164\054\040\111\156  
\143\056\061\065\060\063\006\003\125\004\013\023\054\126\141\154  
\151\103\145\162\164\040\103\154\141\163\163\040\061\040\120\157  
\154\151\143\171\040\126\141\154\151\144\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\061\041\060\037\006\003\125  
\004\003\023\030\150\164\164\160\072\057\057\167\167\167\056\166  
\141\154\151\143\145\162\164\056\143\157\155\057\061\040\060\036  
\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156\146  
\157\100\166\141\154\151\143\145\162\164\056\143\157\155

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\347\060\202\002\120\002\001\001\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\060\201\273\061\044\060  
\042\006\003\125\004\007\023\033\126\141\154\151\103\145\162\164  
\040\126\141\154\151\144\141\164\151\157\156\040\116\145\164\167  
\157\162\153\061\027\060\025\006\003\125\004\012\023\016\126\141  
\154\151\103\145\162\164\054\040\111\156\143\056\061\065\060\063  
\006\003\125\004\013\023\054\126\141\154\151\103\145\162\164\040  
\103\154\141\163\163\040\061\040\120\157\154\151\143\171\040\126  
\141\154\151\144\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\061\041\060\037\006\003\125\004\003\023\030\150\164  
\164\160\072\057\057\167\167\167\056\166\141\154\151\143\145\162  
\164\056\143\157\155\057\061\040\060\036\006\011\052\206\110\206  
\367\015\001\011\001\026\021\151\156\146\157\100\166\141\154\151  
\143\145\162\164\056\143\157\155\060\036\027\015\071\071\060\066  
\062\065\062\062\062\063\064\070\132\027\015\061\071\060\066\062  
\065\062\062\062\063\064\070\132\060\201\273\061\044\060\042\006  
\003\125\004\007\023\033\126\141\154\151\103\145\162\164\040\126  
\141\154\151\144\141\164\151\157\156\040\116\145\164\167\157\162  
\153\061\027\060\025\006\003\125\004\012\023\016\126\141\154\151  
\103\145\162\164\054\040\111\156\143\056\061\065\060\063\006\003  
\125\004\013\023\054\126\141\154\151\103\145\162\164\040\103\154  
\141\163\163\040\061\040\120\157\154\151\143\171\040\126\141\154



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\151\144\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\041\060\037\006\003\125\004\003\023\030\150\164\164\160
\072\057\057\167\167\167\056\166\141\154\151\143\145\162\164\056
\143\157\155\057\061\040\060\036\006\011\052\206\110\206\367\015
\001\011\001\026\021\151\156\146\157\100\166\141\154\151\143\145
\162\164\056\143\157\155\060\201\237\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\201\215\000\060\201\211\002
\201\201\000\330\131\202\172\211\270\226\272\246\057\150\157\130
\056\247\124\034\006\156\364\352\215\110\274\061\224\027\360\363
\116\274\262\270\065\222\166\260\320\245\245\001\327\000\003\022
\042\031\010\370\377\021\043\233\316\007\365\277\151\032\046\376
\116\351\321\177\235\054\100\035\131\150\156\246\370\130\260\235
\032\217\323\077\361\334\031\006\201\250\016\340\072\335\310\123
\105\011\006\346\017\160\303\372\100\246\016\342\126\005\017\030
\115\374\040\202\321\163\125\164\215\166\162\240\035\235\035\300
\335\077\161\002\003\001\000\001\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\201\201\000\120\150\075\111\364
\054\034\006\224\337\225\140\177\226\173\027\376\117\161\255\144
\310\335\167\322\357\131\125\350\077\350\216\005\052\041\362\007
\322\265\247\122\376\234\261\266\342\133\167\027\100\352\162\326
\043\313\050\201\062\303\000\171\030\354\131\027\211\311\306\152
\036\161\311\375\267\164\245\045\105\151\305\110\253\031\341\105
\212\045\153\031\356\345\273\022\365\177\367\246\215\121\303\360
\235\164\267\251\076\240\245\377\266\111\003\023\332\042\314\355
\161\202\053\231\317\072\267\365\055\162\310
```

END

#

Trust for Certificate "ValiCert Class 1 VA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ValiCert Class 1 VA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\345\337\164\074\266\001\304\233\230\103\334\253\214\350\152\201
\020\237\344\216
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\145\130\253\025\255\127\154\036\250\247\265\151\254\277\377\353
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\273\061\044\060\042\006\003\125\004\007\023\033\126\141
\154\151\103\145\162\164\040\126\141\154\151\144\141\164\151\157
\156\040\116\145\164\167\157\162\153\061\027\060\025\006\003\125
\004\012\023\016\126\141\154\151\103\145\162\164\054\040\111\156
\143\056\061\065\060\063\006\003\125\004\013\023\054\126\141\154
\151\103\145\162\164\040\103\154\141\163\163\040\061\040\120\157
```

```
\154\151\143\171\040\126\141\154\151\144\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\061\041\060\037\006\003\125
\004\003\023\030\150\164\164\160\072\057\057\167\167\167\056\166
\141\154\151\143\145\162\164\056\143\157\155\057\061\040\060\036
\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156\146
\157\100\166\141\154\151\143\145\162\164\056\143\157\155
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\001\001
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "ValiCert Class 2 VA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ValiCert Class 2 VA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\201\273\061\044\060\042\006\003\125\004\007\023\033\126\141
\154\151\103\145\162\164\040\126\141\154\151\144\141\164\151\157
\156\040\116\145\164\167\157\162\153\061\027\060\025\006\003\125
\004\012\023\016\126\141\154\151\103\145\162\164\054\040\111\156
\143\056\061\065\060\063\006\003\125\004\013\023\054\126\141\154
\151\103\145\162\164\040\103\154\141\163\163\040\062\040\120\157
\154\151\143\171\040\126\141\154\151\144\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\061\041\060\037\006\003\125
\004\003\023\030\150\164\164\160\072\057\057\167\167\167\056\166
\141\154\151\143\145\162\164\056\143\157\155\057\061\040\060\036
\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156\146
\157\100\166\141\154\151\143\145\162\164\056\143\157\155
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\273\061\044\060\042\006\003\125\004\007\023\033\126\141
\154\151\103\145\162\164\040\126\141\154\151\144\141\164\151\157
\156\040\116\145\164\167\157\162\153\061\027\060\025\006\003\125
\004\012\023\016\126\141\154\151\103\145\162\164\054\040\111\156
\143\056\061\065\060\063\006\003\125\004\013\023\054\126\141\154
```

\151\103\145\162\164\040\103\154\141\163\163\040\062\040\120\157  
\154\151\143\171\040\126\141\154\151\144\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\061\041\060\037\006\003\125  
\004\003\023\030\150\164\164\160\072\057\057\167\167\167\056\166  
\141\154\151\143\145\162\164\056\143\157\155\057\061\040\060\036  
\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156\146  
\157\100\166\141\154\151\143\145\162\164\056\143\157\155

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\347\060\202\002\120\002\001\001\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\060\201\273\061\044\060  
\042\006\003\125\004\007\023\033\126\141\154\151\103\145\162\164  
\040\126\141\154\151\144\141\164\151\157\156\040\116\145\164\167  
\157\162\153\061\027\060\025\006\003\125\004\012\023\016\126\141  
\154\151\103\145\162\164\054\040\111\156\143\056\061\065\060\063  
\006\003\125\004\013\023\054\126\141\154\151\103\145\162\164\040  
\103\154\141\163\163\040\062\040\120\157\154\151\143\171\040\126  
\141\154\151\144\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\061\041\060\037\006\003\125\004\003\023\030\150\164  
\164\160\072\057\057\167\167\167\056\166\141\154\151\143\145\162  
\164\056\143\157\155\057\061\040\060\036\006\011\052\206\110\206  
\367\015\001\011\001\026\021\151\156\146\157\100\166\141\154\151  
\143\145\162\164\056\143\157\155\060\036\027\015\071\071\060\066  
\062\066\060\060\061\071\065\064\132\027\015\061\071\060\066\062  
\066\060\060\061\071\065\064\132\060\201\273\061\044\060\042\006  
\003\125\004\007\023\033\126\141\154\151\103\145\162\164\040\126  
\141\154\151\144\141\164\151\157\156\040\116\145\164\167\157\162  
\153\061\027\060\025\006\003\125\004\012\023\016\126\141\154\151  
\103\145\162\164\054\040\111\156\143\056\061\065\060\063\006\003  
\125\004\013\023\054\126\141\154\151\103\145\162\164\040\103\154  
\141\163\163\040\062\040\120\157\154\151\143\171\040\126\141\154  
\151\144\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\061\041\060\037\006\003\125\004\003\023\030\150\164\164\160  
\072\057\057\167\167\167\056\166\141\154\151\143\145\162\164\056  
\143\157\155\057\061\040\060\036\006\011\052\206\110\206\367\015  
\001\011\001\026\021\151\156\146\157\100\166\141\154\151\143\145  
\162\164\056\143\157\155\060\201\237\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\201\215\000\060\201\211\002  
\201\201\000\316\072\161\312\345\253\310\131\222\125\327\253\330  
\164\016\371\356\331\366\125\107\131\145\107\016\005\125\334\353  
\230\066\074\134\123\135\323\060\317\070\354\275\101\211\355\045  
\102\011\044\153\012\136\263\174\335\122\055\114\346\324\326\175  
\132\131\251\145\324\111\023\055\044\115\034\120\157\265\301\205  
\124\073\376\161\344\323\134\102\371\200\340\221\032\012\133\071  
\066\147\363\077\125\174\033\077\264\137\144\163\064\343\264\022

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\277\207\144\370\332\022\377\067\047\301\263\103\273\357\173\156
\056\151\367\002\003\001\000\001\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\201\201\000\073\177\120\157\157
\120\224\231\111\142\070\070\037\113\370\245\310\076\247\202\201
\366\053\307\350\305\316\350\072\020\202\313\030\000\216\115\275
\250\130\177\241\171\000\265\273\351\215\257\101\331\017\064\356
\041\201\031\240\062\111\050\364\304\216\126\325\122\063\375\120
\325\176\231\154\003\344\311\114\374\313\154\253\146\263\112\041
\214\345\265\014\062\076\020\262\314\154\241\334\232\230\114\002
\133\363\316\271\236\245\162\016\112\267\077\074\346\026\150\370
\276\355\164\114\274\133\325\142\037\103\335
END
```

#

Trust for Certificate "ValiCert Class 2 VA"

CKA\_CLASS CK\_OBJECT\_CLASS

CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ValiCert Class 2 VA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\061\172\052\320\177\053\063\136\365\241\303\116\113\127\350\267
\330\361\374\246
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\251\043\165\233\272\111\066\156\061\302\333\362\347\146\272\207
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END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\273\061\044\060\042\006\003\125\004\007\023\033\126\141
\154\151\103\145\162\164\040\126\141\154\151\144\141\164\151\157
\156\040\116\145\164\167\157\162\153\061\027\060\025\006\003\125
\004\012\023\016\126\141\154\151\103\145\162\164\054\040\111\156
\143\056\061\065\060\063\006\003\125\004\013\023\054\126\141\154
\151\103\145\162\164\040\103\154\141\163\163\040\062\040\120\157
\154\151\143\171\040\126\141\154\151\144\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\061\041\060\037\006\003\125
\004\003\023\030\150\164\164\160\072\057\057\167\167\167\056\166
\141\154\151\143\145\162\164\056\143\157\155\057\061\040\060\036
\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156\146
\157\100\166\141\154\151\143\145\162\164\056\143\157\155
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\001\001
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

```
#  
# Certificate "RSA Root Certificate 1"  
#  
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE  
CKA_TOKEN CK_BBOOL CK_TRUE  
CKA_PRIVATE CK_BBOOL CK_FALSE  
CKA_MODIFIABLE CK_BBOOL CK_FALSE  
CKA_LABEL UTF8 "RSA Root Certificate 1"  
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509  
CKA_SUBJECT MULTILINE_OCTAL  
\060\201\273\061\044\060\042\006\003\125\004\007\023\033\126\141  
\154\151\103\145\162\164\040\126\141\154\151\144\141\164\151\157  
\156\040\116\145\164\167\157\162\153\061\027\060\025\006\003\125  
\004\012\023\016\126\141\154\151\103\145\162\164\054\040\111\156  
\143\056\061\065\060\063\006\003\125\004\013\023\054\126\141\154  
\151\103\145\162\164\040\103\154\141\163\163\040\063\040\120\157  
\154\151\143\171\040\126\141\154\151\144\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\061\041\060\037\006\003\125  
\004\003\023\030\150\164\164\160\072\057\057\167\167\167\056\166  
\141\154\151\143\145\162\164\056\143\157\155\057\061\040\060\036  
\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156\146  
\157\100\166\141\154\151\143\145\162\164\056\143\157\155  
END  
CKA_ID  
UTF8 "0"  
CKA_ISSUER MULTILINE_OCTAL  
\060\201\273\061\044\060\042\006\003\125\004\007\023\033\126\141  
\154\151\103\145\162\164\040\126\141\154\151\144\141\164\151\157  
\156\040\116\145\164\167\157\162\153\061\027\060\025\006\003\125  
\004\012\023\016\126\141\154\151\103\145\162\164\054\040\111\156  
\143\056\061\065\060\063\006\003\125\004\013\023\054\126\141\154  
\151\103\145\162\164\040\103\154\141\163\163\040\063\040\120\157  
\154\151\143\171\040\126\141\154\151\144\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\061\041\060\037\006\003\125  
\004\003\023\030\150\164\164\160\072\057\057\167\167\167\056\166  
\141\154\151\143\145\162\164\056\143\157\155\057\061\040\060\036  
\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156\146  
\157\100\166\141\154\151\143\145\162\164\056\143\157\155  
END  
CKA_SERIAL_NUMBER  
MULTILINE_OCTAL  
\002\001\001  
END  
CKA_VALUE MULTILINE_OCTAL  
\060\202\002\347\060\202\002\120\002\001\001\060\015\006\011\052
```

\206\110\206\367\015\001\001\005\005\000\060\201\273\061\044\060  
\042\006\003\125\004\007\023\033\126\141\154\151\103\145\162\164  
\040\126\141\154\151\144\141\164\151\157\156\040\116\145\164\167  
\157\162\153\061\027\060\025\006\003\125\004\012\023\016\126\141  
\154\151\103\145\162\164\054\040\111\156\143\056\061\065\060\063  
\006\003\125\004\013\023\054\126\141\154\151\103\145\162\164\040  
\103\154\141\163\163\040\063\040\120\157\154\151\143\171\040\126  
\141\154\151\144\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\061\041\060\037\006\003\125\004\003\023\030\150\164  
\164\160\072\057\057\167\167\167\056\166\141\154\151\143\145\162  
\164\056\143\157\155\057\061\040\060\036\006\011\052\206\110\206  
\367\015\001\011\001\026\021\151\156\146\157\100\166\141\154\151  
\143\145\162\164\056\143\157\155\060\036\027\015\071\071\060\066  
\062\066\060\060\062\062\063\063\132\027\015\061\071\060\066\062  
\066\060\060\062\062\063\063\132\060\201\273\061\044\060\042\006  
\003\125\004\007\023\033\126\141\154\151\103\145\162\164\040\126  
\141\154\151\144\141\164\151\157\156\040\116\145\164\167\157\162  
\153\061\027\060\025\006\003\125\004\012\023\016\126\141\154\151  
\103\145\162\164\054\040\111\156\143\056\061\065\060\063\006\003  
\125\004\013\023\054\126\141\154\151\103\145\162\164\040\103\154  
\141\163\163\040\063\040\120\157\154\151\143\171\040\126\141\154  
\151\144\141\164\151\157\156\040\101\165\164\150\157\162\151\164  
\171\061\041\060\037\006\003\125\004\003\023\030\150\164\164\160  
\072\057\057\167\167\167\056\166\141\154\151\143\145\162\164\056  
\143\157\155\057\061\040\060\036\006\011\052\206\110\206\367\015  
\001\011\001\026\021\151\156\146\157\100\166\141\154\151\143\145  
\162\164\056\143\157\155\060\201\237\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\201\215\000\060\201\211\002  
\201\201\000\343\230\121\226\034\350\325\261\006\201\152\127\303  
\162\165\223\253\317\236\246\374\363\026\122\326\055\115\237\065  
\104\250\056\004\115\007\111\212\070\051\365\167\067\347\267\253  
\135\337\066\161\024\231\217\334\302\222\361\347\140\222\227\354  
\330\110\334\277\301\002\040\306\044\244\050\114\060\132\166\155  
\261\134\363\335\336\236\020\161\241\210\307\133\233\101\155\312  
\260\270\216\025\356\255\063\053\317\107\004\134\165\161\012\230  
\044\230\051\247\111\131\245\335\370\267\103\142\141\363\323\342  
\320\125\077\002\003\001\000\001\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\201\201\000\126\273\002\130\204  
\147\010\054\337\037\333\173\111\063\365\323\147\235\364\264\012  
\020\263\311\305\054\342\222\152\161\170\047\362\160\203\102\323  
\076\317\251\124\364\361\330\222\026\214\321\004\313\113\253\311  
\237\105\256\074\212\251\260\161\063\135\310\305\127\337\257\250  
\065\263\177\211\207\351\350\045\222\270\177\205\172\256\326\274  
\036\067\130\052\147\311\221\317\052\201\076\355\306\071\337\300  
\076\031\234\031\314\023\115\202\101\265\214\336\340\075\140\010  
\040\017\105\176\153\242\177\243\214\025\356

END

```

#
Trust for Certificate "RSA Root Certificate 1"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "RSA Root Certificate 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\151\275\214\364\234\323\000\373\131\056\027\223\312\125\152\363
\354\252\065\373
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\242\157\123\267\356\100\333\112\150\347\372\030\331\020\113\162
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\273\061\044\060\042\006\003\125\004\007\023\033\126\141
\154\151\103\145\162\164\040\126\141\154\151\144\141\164\151\157
\156\040\116\145\164\167\157\162\153\061\027\060\025\006\003\125
\004\012\023\016\126\141\154\151\103\145\162\164\054\040\111\156
\143\056\061\065\060\063\006\003\125\004\013\023\054\126\141\154
\151\103\145\162\164\040\103\154\141\163\163\040\063\040\120\157
\154\151\143\171\040\126\141\154\151\144\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\061\041\060\037\006\003\125
\004\003\023\030\150\164\164\160\072\057\057\167\167\167\056\166
\141\154\151\143\145\162\164\056\143\157\155\057\061\040\060\036
\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156\146
\157\100\166\141\154\151\143\145\162\164\056\143\157\155
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL
CK_FALSE

```

```

#
# Certificate "Verisign Class 1 Public Primary Certification Authority - G3"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110  
\316\261\244

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\032\060\202\003\002\002\021\000\213\133\165\126\204  
\124\205\013\000\317\257\070\110\316\261\244\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003  
\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050  
\143\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171



\061\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123  
\151\147\156\040\103\154\141\163\163\040\061\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060  
\061\060\060\060\060\060\060\132\027\015\063\066\060\067\061\066  
\062\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012  
\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056  
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123  
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162  
\153\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040  
\061\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060  
\103\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156  
\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143\040  
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\335\204\324\271\264\371\247\330\363\004\170  
\234\336\075\334\154\023\026\331\172\335\044\121\146\300\307\046  
\131\015\254\006\010\302\224\321\063\037\360\203\065\037\156\033  
\310\336\252\156\025\116\124\047\357\304\155\032\354\013\343\016  
\360\104\245\127\307\100\130\036\243\107\037\161\354\140\366\155  
\224\310\030\071\355\376\102\030\126\337\344\114\111\020\170\116  
\001\166\065\143\022\066\335\146\274\001\004\066\243\125\150\325  
\242\066\011\254\253\041\046\124\006\255\077\312\024\340\254\312  
\255\006\035\225\342\370\235\361\340\140\377\302\177\165\053\114  
\314\332\376\207\231\041\352\272\376\076\124\327\322\131\170\333  
\074\156\317\240\023\000\032\270\047\241\344\276\147\226\312\240  
\305\263\234\335\311\165\236\353\060\232\137\243\315\331\256\170  
\031\077\043\351\134\333\051\275\255\125\310\033\124\214\143\366  
\350\246\352\307\067\022\134\243\051\036\002\331\333\037\073\264  
\327\017\126\107\201\025\004\112\257\203\047\321\305\130\210\301  
\335\366\252\247\243\030\332\150\252\155\021\121\341\277\145\153  
\237\226\166\321\075\002\003\001\000\001\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\253\146  
\215\327\263\272\307\232\266\346\125\320\005\361\237\061\215\132  
\252\331\252\106\046\017\161\355\245\255\123\126\142\001\107\052  
\104\351\376\077\164\013\023\233\271\364\115\033\262\321\137\262  
\266\322\210\134\263\237\315\313\324\247\331\140\225\204\072\370  
\301\067\035\141\312\347\260\305\345\221\332\124\246\254\061\201  
\256\227\336\315\010\254\270\300\227\200\177\156\162\244\347\151  
\023\225\145\037\304\223\074\375\171\217\004\324\076\117\352\367  
\236\316\315\147\174\117\145\002\377\221\205\124\163\307\377\066  
\367\206\055\354\320\136\117\377\021\237\162\006\326\270\032\361

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\114\015\046\145\342\104\200\036\307\237\343\335\350\012\332\354
\245\040\200\151\150\241\117\176\341\153\317\007\101\372\203\216
\274\070\335\260\056\021\261\153\262\102\314\232\274\371\110\042
\171\112\031\017\262\034\076\040\164\331\152\303\276\362\050\170
\023\126\171\117\155\120\352\033\260\265\127\261\067\146\130\043
\363\334\017\337\012\207\304\357\206\005\325\070\024\140\231\243
\113\336\006\226\161\054\362\333\266\037\244\357\077\356
END
```

#

Trust for Certificate "Verisign Class 1 Public Primary Certification Authority - G3"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\040\102\205\334\367\353\166\101\225\127\216\023\153\324\267\321
\351\216\106\245
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\261\107\274\030\127\321\030\240\170\055\354\161\350\052\225\163
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
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END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

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#
# Certificate "Verisign Class 2 Public Primary Certification Authority - G3"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
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\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
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\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
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\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
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MULTILINE_OCTAL
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CKA_VALUE MULTILINE_OCTAL

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\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145\162  
\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164\167  
\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050\143  
\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156\054  
\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164\150  
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061  
\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123\151  
\147\156\040\103\154\141\163\163\040\062\040\120\165\142\154\151  
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146  
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\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060\103  
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\202\001\001\000\257\012\015\302\325\054\333\147\271\055\345\224  
\047\335\245\276\340\260\115\217\263\141\126\074\326\174\303\364  
\315\076\206\313\242\210\342\341\330\244\151\305\265\342\277\301  
\246\107\120\136\106\071\213\325\226\272\265\157\024\277\020\316  
\047\023\236\005\107\233\061\172\023\330\037\331\323\002\067\213  
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\043\075\037\231\376\114\350\026\143\216\306\010\216\366\061\366  
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END

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Trust for Certificate "Verisign Class 2 Public Primary Certification Authority - G3"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL

UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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CKA\_ISSUER MULTILINE\_OCTAL

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\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
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\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
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\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 3 Public Primary Certification Authority - G3"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 3 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
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\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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CKA\_VALUE MULTILINE\_OCTAL

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END

#

Trust for Certificate "Verisign Class 3 Public Primary Certification Authority - G3"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 3 Public Primary Certification Authority - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\023\055\015\105\123\113\151\227\315\262\325\303\071\342\125\166  
\140\233\134\306

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\315\150\266\247\307\304\316\165\340\035\117\127\104\141\222\011

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123



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\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\063\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\021\000\233\176\006\111\243\076\142\271\325\356\220\110\161
\051\357\127
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END

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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
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#

# Certificate "Verisign Class 4 Public Primary Certification Authority - G3"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign

Class 4 Public Primary Certification Authority - G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\064\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
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\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\064\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\021\000\354\240\247\213\156\165\152\001\317\304\174\314\057  
\224\136\327

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CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\032\060\202\003\002\002\021\000\354\240\247\213\156  
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\206\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060  
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\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145  
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164  
\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050  
\143\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156  
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164  
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171  
\061\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123  
\151\147\156\040\103\154\141\163\163\040\064\040\120\165\142\154  
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060  
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\062\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012  
\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056  
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123  
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162  
\153\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040  
\061\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111  
\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162  
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060  
\103\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156

\040\103\154\141\163\163\040\064\040\120\165\142\154\151\143\040  
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\255\313\245\021\151\306\131\253\361\217\265  
\031\017\126\316\314\265\037\040\344\236\046\045\113\340\163\145  
\211\131\336\320\203\344\365\017\265\273\255\361\174\350\041\374  
\344\350\014\356\174\105\042\031\166\222\264\023\267\040\133\011  
\372\141\256\250\362\245\215\205\302\052\326\336\146\066\322\233  
\002\364\250\222\140\174\234\151\264\217\044\036\320\206\122\366  
\062\234\101\130\036\042\275\315\105\142\225\010\156\320\146\335  
\123\242\314\360\020\334\124\163\213\004\241\106\063\063\134\027  
\100\271\236\115\323\363\276\125\203\350\261\211\216\132\174\232  
\226\042\220\073\210\045\362\322\123\210\002\014\013\170\362\346  
\067\027\113\060\106\007\344\200\155\246\330\226\056\350\054\370  
\021\263\070\015\146\246\233\352\311\043\133\333\216\342\363\023  
\216\032\131\055\252\002\360\354\244\207\146\334\301\077\365\330  
\271\364\354\202\306\322\075\225\035\345\300\117\204\311\331\243  
\104\050\006\152\327\105\254\360\153\152\357\116\137\370\021\202  
\036\070\143\064\146\120\324\076\223\163\372\060\303\146\255\377  
\223\055\227\357\003\002\003\001\000\001\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\217\372  
\045\153\117\133\344\244\116\047\125\253\042\025\131\074\312\265  
\012\324\112\333\253\335\241\137\123\305\240\127\071\302\316\107  
\053\276\072\310\126\277\302\331\047\020\072\261\005\074\300\167  
\061\273\072\323\005\173\155\232\034\060\214\200\313\223\223\052  
\203\253\005\121\202\002\000\021\147\153\363\210\141\107\137\003  
\223\325\133\015\340\361\324\241\062\065\205\262\072\333\260\202  
\253\321\313\012\274\117\214\133\305\113\000\073\037\052\202\246  
\176\066\205\334\176\074\147\000\265\344\073\122\340\250\353\135  
\025\371\306\155\360\255\035\016\205\267\251\232\163\024\132\133  
\217\101\050\300\325\350\055\115\244\136\315\252\331\355\316\334  
\330\325\074\102\035\027\301\022\135\105\070\303\070\363\374\205  
\056\203\106\110\262\327\040\137\222\066\217\347\171\017\230\136  
\231\350\360\320\244\273\365\123\275\052\316\131\260\257\156\177  
\154\273\322\036\000\260\041\355\370\101\142\202\271\330\262\304  
\273\106\120\363\061\305\217\001\250\164\353\365\170\047\332\347  
\367\146\103\363\236\203\076\040\252\303\065\140\221\316

END

#

Trust for Certificate "Verisign Class 4 Public Primary Certification Authority - G3"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Verisign Class 4 Public Primary Certification Authority - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\310\354\214\207\222\151\313\113\253\071\351\215\176\127\147\363  
\024\225\163\235

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
\333\310\362\047\056\261\352\152\051\043\135\376\126\076\063\337

END

CKA\_ISSUER MULTILINE\_OCTAL  
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
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\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
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\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
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\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
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END

CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\021\000\354\240\247\213\156\165\152\001\317\304\174\314\057  
\224\136\327

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_STEP\_UP\_APPROVED  
CK\_BBOOL CK\_FALSE

#

# Certificate "Entrust.net Secure Server CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Entrust.net Secure Server CA"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
\060\201\303\061\013\060\011\006\003\125\004\006\023\002\125\123  
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\163\164\056\156\145\164\061\073\060\071\006\003\125\004\013\023  
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\062\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164  
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\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050\143  
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\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\067\112\322\103

END

CKA\_VALUE MULTILINE\_OCTAL

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\125\123\061\024\060\022\006\003\125\004\012\023\013\105\156\164  
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\145\164\057\103\120\123\040\151\156\143\157\162\160\056\040\142  
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\033\211\363\017\257\067\221\061\377\257\061\140\311\250\350\262  
\020\150\355\237\347\223\066\361\012\144\273\107\365\004\027\077  
\043\107\115\305\047\031\201\046\014\124\162\015\210\055\331\037  
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\302\112\330\051\222\046\144\321\344\230\154\072\000\212\365\064  
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\163\164\056\156\145\164\040\123\145\143\165\162\145\040\123\145  
\162\166\145\162\040\103\145\162\164\151\146\151\143\141\164\151  
\157\156\040\101\165\164\150\157\162\151\164\171\061\015\060\013  
\006\003\125\004\003\023\004\103\122\114\061\060\051\240\047\240  
\045\206\043\150\164\164\160\072\057\057\167\167\167\056\145\156  
\164\162\165\163\164\056\156\145\164\057\103\122\114\057\156\145  
\164\061\056\143\162\154\060\053\006\003\125\035\020\004\044\060  
\042\200\017\061\071\071\071\060\065\062\065\061\066\060\071\064  
\060\132\201\017\062\060\061\071\060\065\062\065\061\066\060\071  
\064\060\132\060\013\006\003\125\035\017\004\004\003\002\001\006  
\060\037\006\003\125\035\043\004\030\060\026\200\024\360\027\142  
\023\125\075\263\377\012\000\153\373\120\204\227\363\355\142\320  
\032\060\035\006\003\125\035\016\004\026\004\024\360\027\142\023

```
\125\075\263\377\012\000\153\373\120\204\227\363\355\142\320\032
\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060\031
\006\011\052\206\110\206\366\175\007\101\000\004\014\060\012\033
\004\126\064\056\060\003\002\004\220\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\201\201\000\220\334\060\002
\372\144\164\302\247\012\245\174\041\215\064\027\250\373\107\016
\377\045\174\215\023\012\373\344\230\265\357\214\370\305\020\015
\367\222\276\361\303\325\325\225\152\004\273\054\316\046\066\145
\310\061\306\347\356\077\343\127\165\204\172\021\357\106\117\030
\364\323\230\273\250\207\062\272\162\366\074\342\075\237\327\035
\331\303\140\103\214\130\016\042\226\057\142\243\054\037\272\255
\005\357\253\062\170\207\240\124\163\031\265\134\005\371\122\076
\155\055\105\013\367\012\223\352\355\006\371\262
```

END

#

Trust for Certificate "Entrust.net Secure Server CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust.net Secure Server CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\231\246\233\346\032\376\210\153\115\053\202\000\174\270\124\374
\061\176\025\071
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\337\362\200\163\314\361\346\141\163\374\365\102\351\305\174\356
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\303\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\024\060\022\006\003\125\004\012\023\013\105\156\164\162\165
\163\164\056\156\145\164\061\073\060\071\006\003\125\004\013\023
\062\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164
\057\103\120\123\040\151\156\143\157\162\160\056\040\142\171\040
\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151\141
\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050\143
\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056\156
\145\164\040\114\151\155\151\164\145\144\061\072\060\070\006\003
\125\004\003\023\061\105\156\164\162\165\163\164\056\156\145\164
\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\004\067\112\322\103
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Entrust.net Secure Personal CA"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Entrust.net Secure Personal CA"
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE
```

```
CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\201\311\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\024\060\022\006\003\125\004\012\023\013\105\156\164\162\165
\163\164\056\156\145\164\061\110\060\106\006\003\125\004\013\024
\077\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164
\057\103\154\151\145\156\164\137\103\101\137\111\156\146\157\057
\103\120\123\040\151\156\143\157\162\160\056\040\142\171\040\162
\145\146\056\040\154\151\155\151\164\163\040\154\151\141\142\056
\061\045\060\043\006\003\125\004\013\023\034\050\143\051\040\061
\071\071\071\040\105\156\164\162\165\163\164\056\156\145\164\040
\114\151\155\151\164\145\144\061\063\060\061\006\003\125\004\003
\023\052\105\156\164\162\165\163\164\056\156\145\164\040\103\154
\151\145\156\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171
```

```
END
```

```
CKA_ID UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\311\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\024\060\022\006\003\125\004\012\023\013\105\156\164\162\165
\163\164\056\156\145\164\061\110\060\106\006\003\125\004\013\024
\077\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164
\057\103\154\151\145\156\164\137\103\101\137\111\156\146\157\057
\103\120\123\040\151\156\143\157\162\160\056\040\142\171\040\162
\145\146\056\040\154\151\155\151\164\163\040\154\151\141\142\056
\061\045\060\043\006\003\125\004\013\023\034\050\143\051\040\061
\071\071\071\040\105\156\164\162\165\163\164\056\156\145\164\040
\114\151\155\151\164\145\144\061\063\060\061\006\003\125\004\003
\023\052\105\156\164\162\165\163\164\056\156\145\164\040\103\154
\151\145\156\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171
```

```
END
```

```
CKA_SERIAL_NUMBER
```



MULTILINE\_OCTAL

\002\004\070\003\221\356

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\355\060\202\004\126\240\003\002\001\002\002\004\070  
\003\221\356\060\015\006\011\052\206\110\206\367\015\001\001\004  
\005\000\060\201\311\061\013\060\011\006\003\125\004\006\023\002  
\125\123\061\024\060\022\006\003\125\004\012\023\013\105\156\164  
\162\165\163\164\056\156\145\164\061\110\060\106\006\003\125\004  
\013\024\077\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\154\151\145\156\164\137\103\101\137\111\156\146  
\157\057\103\120\123\040\151\156\143\157\162\160\056\040\142\171  
\040\162\145\146\056\040\154\151\155\151\164\163\040\154\151\141  
\142\056\061\045\060\043\006\003\125\004\013\023\034\050\143\051  
\040\061\071\071\071\040\105\156\164\162\165\163\164\056\156\145  
\164\040\114\151\155\151\164\145\144\061\063\060\061\006\003\125  
\004\003\023\052\105\156\164\162\165\163\164\056\156\145\164\040  
\103\154\151\145\156\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036  
\027\015\071\071\061\060\061\062\061\071\062\064\063\060\132\027  
\015\061\071\061\060\061\062\061\071\065\064\063\060\132\060\201  
\311\061\013\060\011\006\003\125\004\006\023\002\125\123\061\024  
\060\022\006\003\125\004\012\023\013\105\156\164\162\165\163\164  
\056\156\145\164\061\110\060\106\006\003\125\004\013\024\077\167  
\167\167\056\145\156\164\162\165\163\164\056\156\145\164\057\103  
\154\151\145\156\164\137\103\101\137\111\156\146\157\057\103\120  
\123\040\151\156\143\157\162\160\056\040\142\171\040\162\145\146  
\056\040\154\151\155\151\164\163\040\154\151\141\142\056\061\045  
\060\043\006\003\125\004\013\023\034\050\143\051\040\061\071\071  
\071\040\105\156\164\162\165\163\164\056\156\145\164\040\114\151  
\155\151\164\145\144\061\063\060\061\006\003\125\004\003\023\052  
\105\156\164\162\165\163\164\056\156\145\164\040\103\154\151\145  
\156\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\060\201\235\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\201\213\000  
\060\201\207\002\201\201\000\310\072\231\136\061\027\337\254\047  
\157\220\173\344\031\377\105\243\064\302\333\301\250\117\360\150  
\352\204\375\237\165\171\317\301\212\121\224\257\307\127\003\107  
\144\236\255\202\033\132\332\177\067\170\107\273\067\230\022\226  
\316\306\023\175\357\322\014\060\121\251\071\236\125\370\373\261  
\347\060\336\203\262\272\076\361\325\211\073\073\205\272\252\164  
\054\376\077\061\156\257\221\225\156\006\324\007\115\113\054\126  
\107\030\004\122\332\016\020\223\277\143\220\233\341\337\214\346  
\002\244\346\117\136\367\213\002\001\003\243\202\001\340\060\202  
\001\334\060\021\006\011\140\206\110\001\206\370\102\001\001\004  
\004\003\002\000\007\060\202\001\042\006\003\125\035\037\004\202  
\001\031\060\202\001\025\060\201\344\240\201\341\240\201\336\244  
\201\333\060\201\330\061\013\060\011\006\003\125\004\006\023\002

\125\123\061\024\060\022\006\003\125\004\012\023\013\105\156\164  
\162\165\163\164\056\156\145\164\061\110\060\106\006\003\125\004  
\013\024\077\167\167\167\056\145\156\164\162\165\163\164\056\156  
\145\164\057\103\154\151\145\156\164\137\103\101\137\111\156\146  
\157\057\103\120\123\040\151\156\143\157\162\160\056\040\142\171  
\040\162\145\146\056\040\154\151\155\151\164\163\040\154\151\141  
\142\056\061\045\060\043\006\003\125\004\013\023\034\050\143\051  
\040\061\071\071\071\040\105\156\164\162\165\163\164\056\156\145  
\164\040\114\151\155\151\164\145\144\061\063\060\061\006\003\125  
\004\003\023\052\105\156\164\162\165\163\164\056\156\145\164\040  
\103\154\151\145\156\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\061\015  
\060\013\006\003\125\004\003\023\004\103\122\114\061\060\054\240  
\052\240\050\206\046\150\164\164\160\072\057\057\167\167\167\056  
\145\156\164\162\165\163\164\056\156\145\164\057\103\122\114\057  
\103\154\151\145\156\164\061\056\143\162\154\060\053\006\003\125  
\035\020\004\044\060\042\200\017\061\071\071\071\061\060\061\062  
\061\071\062\064\063\060\132\201\017\062\060\061\071\061\060\061  
\062\061\071\062\064\063\060\132\060\013\006\003\125\035\017\004  
\004\003\002\001\006\060\037\006\003\125\035\043\004\030\060\026  
\200\024\304\373\234\051\173\227\315\114\226\374\356\133\263\312  
\231\164\213\225\352\114\060\035\006\003\125\035\016\004\026\004  
\024\304\373\234\051\173\227\315\114\226\374\356\133\263\312\231  
\164\213\225\352\114\060\014\006\003\125\035\023\004\005\060\003  
\001\001\377\060\031\006\011\052\206\110\206\366\175\007\101\000  
\004\014\060\012\033\004\126\064\056\060\003\002\004\220\060\015  
\006\011\052\206\110\206\367\015\001\001\004\005\000\003\201\201  
\000\077\256\212\361\327\146\003\005\236\076\372\352\034\106\273  
\244\133\217\170\232\022\110\231\371\364\065\336\014\066\007\002  
\153\020\072\211\024\201\234\061\246\174\262\101\262\152\347\007  
\001\241\113\371\237\045\073\226\312\231\303\076\241\121\034\363  
\303\056\104\367\260\147\106\252\222\345\073\332\034\031\024\070  
\060\325\342\242\061\045\056\361\354\105\070\355\370\006\130\003  
\163\142\260\020\061\217\100\277\144\340\134\076\305\117\037\332  
\022\103\377\114\346\006\046\250\233\031\252\104\074\166\262\134  
\354

END

#

Trust for Certificate

"Entrust.net Secure Personal CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust.net Secure Personal CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\332\171\301\161\021\120\302\064\071\252\053\013\014\142\375\125

```
\262\371\365\200
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\014\101\057\023\133\240\124\365\226\146\055\176\315\016\003\364
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\311\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\024\060\022\006\003\125\004\012\023\013\105\156\164\162\165
\163\164\056\156\145\164\061\110\060\106\006\003\125\004\013\024
\077\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164
\057\103\154\151\145\156\164\137\103\101\137\111\156\146\157\057
\103\120\123\040\151\156\143\157\162\160\056\040\142\171\040\162
\145\146\056\040\154\151\155\151\164\163\040\154\151\141\142\056
\061\045\060\043\006\003\125\004\013\023\034\050\143\051\040\061
\071\071\071\040\105\156\164\162\165\163\164\056\156\145\164\040
\114\151\155\151\164\145\144\061\063\060\061\006\003\125\004\003
\023\052\105\156\164\162\165\163\164\056\156\145\164\040\103\154
\151\145\156\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\070\003\221\356
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust.net Premium 2048 Secure Server CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
```

\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\050\062\060\064\070\051

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156  
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125  
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056  
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143  
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151  
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006  
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105  
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164  
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164  
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\040\050\062\060\064\070\051

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\070\143\271\146

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\134\060\202\003\104\240\003\002\001\002\002\004\070  
\143\271\146\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\201\264\061\024\060\022\006\003\125\004\012\023\013  
\105\156\164\162\165\163\164\056\156\145\164\061\100\060\076\006  
\003\125\004\013\024\067\167\167\167\056\145\156\164\162\165\163  
\164\056\156\145\164\057\103\120\123\137\062\060\064\070\040\151  
\156\143\157\162\160\056\040\142\171\040\162\145\146\056\040\050  
\154\151\155\151\164\163\040\154\151\141\142\056\051\061\045\060  
\043\006\003\125\004\013\023\034\050\143\051\040\061\071\071\071  
\040\105\156\164\162\165\163\164\056\156\145\164\040\114\151\155  
\151\164\145\144\061\063\060\061\006\003\125\004\003\023\052\105  
\156\164\162\165\163\164\056\156\145\164\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\050\062\060\064\070\051\060\036\027\015\071\071\061  
\062\062\064\061\067\065\060\065\061\132\027\015\061\071\061\062  
\062\064\061\070\062\060\065\061\132\060\201\264\061\024\060\022  
\006\003\125\004\012\023\013\105\156\164\162\165\163\164\056\156  
\145\164\061\100\060\076\006\003\125\004\013\024\067\167\167\167  
\056\145\156\164\162\165\163\164\056\156\145\164\057\103\120\123  
\137\062\060\064\070\040\151\156\143\157\162\160\056\040\142\171  
\040\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151  
\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050  
\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056

\156\145\164\040\114\151\155\151\164\145\144\061\063\060\061\006  
\003\125\004\003\023\052\105\156\164\162\165\163\164\056\156\145  
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\040\050\062\060\064\070\051  
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\255\115\113\251\022\206\262\352\243\040\007\025\026\144\052  
\053\113\321\277\013\112\115\216\355\200\166\245\147\267\170\100  
\300\163\102\310\150\300\333\123\053\335\136\270\166\230\065\223  
\213\032\235\174\023\072\016\037\133\267\036\317\345\044\024\036  
\261\201\251\215\175\270\314\153\113\003\361\002\014\334\253\245  
\100\044\000\177\164\224\241\235\010\051\263\210\013\365\207\167  
\235\125\315\344\303\176\327\152\144\253\205\024\206\225\133\227  
\062\120\157\075\310\272\146\014\343\374\275\270\111\301\166\211  
\111\031\375\300\250\275\211\243\147\057\306\237\274\161\031\140  
\270\055\351\054\311\220\166\146\173\224\342\257\170\326\145\123  
\135\074\326\234\262\317\051\003\371\057\244\120\262\324\110\316  
\005\062\125\212\375\262\144\114\016\344\230\007\165\333\177\337  
\271\010\125\140\205\060\051\371\173\110\244\151\206\343\065\077  
\036\206\135\172\172\025\275\357\000\216\025\042\124\027\000\220  
\046\223\274\016\111\150\221\277\370\107\323\235\225\102\301\016  
\115\337\157\046\317\303\030\041\142\146\103\160\326\325\300\007  
\341\002\003\001\000\001\243\164\060\162\060\021\006\011\140\206  
\110\001\206\370\102\001\001\004\004\003\002\000\007\060\037\006  
\003\125\035\043\004\030\060\026\200\024\125\344\201\321\021\200  
\276\330\211\271\010\243\061\371\241\044\011\026\271\160\060\035  
\006\003\125\035\016\004\026\004\024\125\344\201\321\021\200\276  
\330\211\271\010\243\061\371\241\044\011\026\271\160\060\035\006  
\011\052\206\110\206\366\175\007\101\000\004\020\060\016\033\010  
\126\065\056\060\072\064\056\060\003\002\004\220\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\131\107\254\041\204\212\027\311\234\211\123\036\272\200\205\032  
\306\074\116\076\261\234\266\174\306\222\135\030\144\002\343\323  
\006\010\021\141\174\143\343\053\235\061\003\160\166\322\243\050  
\240\364\273\232\143\163\355\155\345\052\333\355\024\251\053\306  
\066\021\320\053\353\007\213\245\332\236\134\031\235\126\022\365  
\124\051\310\005\355\262\022\052\215\364\003\033\377\347\222\020  
\207\260\072\265\303\235\005\067\022\243\307\364\025\271\325\244  
\071\026\233\123\072\043\221\361\250\202\242\152\210\150\301\171  
\002\042\274\252\246\326\256\337\260\024\137\270\207\320\335\174  
\177\173\377\257\034\317\346\333\007\255\136\333\205\235\320\053  
\015\063\333\004\321\346\111\100\023\053\166\373\076\351\234\211  
\017\025\316\030\260\205\170\041\117\153\117\016\372\066\147\315  
\007\362\377\010\320\342\336\331\277\052\257\270\207\206\041\074  
\004\312\267\224\150\177\317\074\351\230\327\070\377\354\300\331  
\120\360\056\113\130\256\106\157\320\056\303\140\332\162\125\162  
\275\114\105\236\141\272\277\204\201\222\003\321\322\151\174\305  
END

```

#
Trust for Certificate "Entrust.net Premium 2048 Secure Server CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\200\035\142\320\173\104\235\134\134\003\134\230\352\141\372\104
\074\052\130\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\272\041\352\040\326\335\333\217\301\127\213\100\255\241\374\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\070\143\271\146
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

#
# Certificate "Baltimore CyberTrust Root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Baltimore CyberTrust Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061  
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155  
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171  
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004  
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142  
\145\162\124\162\165\163\164\040\122\157\157\164

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061  
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155  
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171  
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004  
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142  
\145\162\124\162\165\163\164\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\002\000\000\271

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\167\060\202\002\137\240\003\002\001\002\002\004\002  
\000\000\271\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\111  
\105\061\022\060\020\006\003\125\004\012\023\011\102\141\154\164  
\151\155\157\162\145\061\023\060\021\006\003\125\004\013\023\012  
\103\171\142\145\162\124\162\165\163\164\061\042\060\040\006\003  
\125\004\003\023\031\102\141\154\164\151\155\157\162\145\040\103  
\171\142\145\162\124\162\165\163\164\040\122\157\157\164\060\036  
\027\015\060\060\060\065\061\062\061\070\064\066\060\060\132\027  
\015\062\065\060\065\061\062\062\063\065\071\060\060\132\060\132  
\061\013\060\011\006\003\125\004\006\023\002\111\105\061\022\060  
\020\006\003\125\004\012\023\011\102\141\154\164\151\155\157\162  
\145\061\023\060\021\006\003\125\004\013\023\012\103\171\142\145  
\162\124\162\165\163\164\061\042\060\040\006\003\125\004\003\023  
\031\102\141\154\164\151\155\157\162\145\040\103\171\142\145\162  
\124\162\165\163\164\040\122\157\157\164\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\243\004\273\042\253  
\230\075\127\350\046\162\232\265\171\324\051\342\341\350\225\200  
\261\260\343\133\216\053\051\232\144\337\241\135\355\260\011\005  
\155\333\050\056\316\142\242\142\376\264\210\332\022\353\070\353  
\041\235\300\101\053\001\122\173\210\167\323\034\217\307\272\271  
\210\265\152\011\347\163\350\021\100\247\321\314\312\142\215\055  
\345\217\013\246\120\322\250\120\303\050\352\365\253\045\207\212  
\232\226\034\251\147\270\077\014\325\367\371\122\023\057\302\033  
\325\160\160\360\217\300\022\312\006\313\232\341\331\312\063\172  
\167\326\370\354\271\361\150\104\102\110\023\322\300\302\244\256

\136\140\376\266\246\005\374\264\335\007\131\002\324\131\030\230  
\143\365\245\143\340\220\014\175\135\262\006\172\363\205\352\353  
\324\003\256\136\204\076\137\377\025\355\151\274\371\071\066\162  
\165\317\167\122\115\363\311\220\054\271\075\345\311\043\123\077  
\037\044\230\041\134\007\231\051\275\306\072\354\347\156\206\072  
\153\227\164\143\063\275\150\030\061\360\170\215\166\277\374\236  
\216\135\052\206\247\115\220\334\047\032\071\002\003\001\000\001  
\243\105\060\103\060\035\006\003\125\035\016\004\026\004\024\345  
\235\131\060\202\107\130\314\254\372\010\124\066\206\173\072\265  
\004\115\360\060\022\006\003\125\035\023\001\001\377\004\010\060  
\006\001\001\377\002\001\003\060\016\006\003\125\035\017\001\001  
\377\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\205\014\135\216\344  
\157\121\150\102\005\240\335\273\117\047\045\204\003\275\367\144  
\375\055\327\060\343\244\020\027\353\332\051\051\266\171\077\166  
\366\031\023\043\270\020\012\371\130\244\324\141\160\275\004\141  
\152\022\212\027\325\012\275\305\274\060\174\326\351\014\045\215  
\206\100\117\354\314\243\176\070\306\067\021\117\355\335\150\061  
\216\114\322\263\001\164\356\276\165\136\007\110\032\177\160\377  
\026\134\204\300\171\205\270\005\375\177\276\145\021\243\017\300  
\002\264\370\122\067\071\004\325\251\061\172\030\277\240\052\364  
\022\231\367\243\105\202\343\074\136\365\235\236\265\310\236\174  
\056\310\244\236\116\010\024\113\155\375\160\155\153\032\143\275  
\144\346\037\267\316\360\362\237\056\273\033\267\362\120\210\163  
\222\302\342\343\026\215\232\062\002\253\216\030\335\351\020\021  
\356\176\065\253\220\257\076\060\224\172\320\063\075\247\145\017  
\365\374\216\236\142\317\107\104\054\001\135\273\035\265\062\322  
\107\322\070\056\320\376\201\334\062\152\036\265\356\074\325\374  
\347\201\035\031\303\044\102\352\143\071\251

END

#

Trust for Certificate "Baltimore CyberTrust Root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Baltimore CyberTrust Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\324\336\040\320\136\146\374\123\376\032\120\210\054\170\333\050  
\122\312\344\164

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\254\266\224\245\234\027\340\327\221\122\233\261\227\006\246\344

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061  
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155



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\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\002\000\000\271
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Equifax Secure Global eBusiness CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Equifax Secure Global eBusiness CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141
\170\040\123\145\143\165\162\145\040\111\156\143\056\061\055\060
\053\006\003\125\004\003\023\044\105\161\165\151\146\141\170\040
\123\145\143\165\162\145\040\107\154\157\142\141\154\040\145\102
\165\163\151\156\145\163\163\040\103\101\055\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141
\170\040\123\145\143\165\162\145\040\111\156\143\056\061\055\060
\053\006\003\125\004\003\023\044\105\161\165\151\146\141\170\040
\123\145\143\165\162\145\040\107\154\157\142\141\154\040\145\102
\165\163\151\156\145\163\163\040\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\220\060\202\001\371\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\004\005\000\060
\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061\034

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\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141\170  
\040\123\145\143\165\162\145\040\111\156\143\056\061\055\060\053  
\006\003\125\004\003\023\044\105\161\165\151\146\141\170\040\123  
\145\143\165\162\145\040\107\154\157\142\141\154\040\145\102\165  
\163\151\156\145\163\163\040\103\101\055\061\060\036\027\015\071  
\071\060\066\062\061\060\064\060\060\060\060\132\027\015\062\060  
\060\066\062\061\060\064\060\060\060\060\132\060\132\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\034\060\032\006\003  
\125\004\012\023\023\105\161\165\151\146\141\170\040\123\145\143  
\165\162\145\040\111\156\143\056\061\055\060\053\006\003\125\004  
\003\023\044\105\161\165\151\146\141\170\040\123\145\143\165\162  
\145\040\107\154\157\142\141\154\040\145\102\165\163\151\156\145  
\163\163\040\103\101\055\061\060\201\237\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\201\215\000\060\201\211  
\002\201\201\000\272\347\027\220\002\145\261\064\125\074\111\302  
\121\325\337\247\321\067\217\321\347\201\163\101\122\140\233\235  
\241\027\046\170\255\307\261\350\046\224\062\265\336\063\215\072  
\057\333\362\232\172\132\163\230\243\134\351\373\212\163\033\134  
\347\303\277\200\154\315\251\364\326\053\300\367\371\231\252\143  
\242\261\107\002\017\324\344\121\072\022\074\154\212\132\124\204  
\160\333\301\305\220\317\162\105\313\250\131\300\315\063\235\077  
\243\226\353\205\063\041\034\076\036\076\140\156\166\234\147\205  
\305\310\303\141\002\003\001\000\001\243\146\060\144\060\021\006  
\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000\007  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\037\006\003\125\035\043\004\030\060\026\200\024\276\250  
\240\164\162\120\153\104\267\311\043\330\373\250\377\263\127\153  
\150\154\060\035\006\003\125\035\016\004\026\004\024\276\250\240  
\164\162\120\153\104\267\311\043\330\373\250\377\263\127\153\150  
\154\060\015\006\011\052\206\110\206\367\015\001\001\004\005\000  
\003\201\201\000\060\342\001\121\252\307\352\137\332\271\320\145  
\017\060\326\076\332\015\024\111\156\221\223\047\024\061\357\304  
\367\055\105\370\354\307\277\242\101\015\043\264\222\371\031\000  
\147\275\001\257\315\340\161\374\132\317\144\304\340\226\230\320  
\243\100\342\001\212\357\047\007\361\145\001\212\104\055\006\145  
\165\122\300\206\020\040\041\137\154\153\017\154\256\011\034\257  
\362\242\030\064\304\165\244\163\034\361\215\334\357\255\371\263  
\166\264\222\277\334\225\020\036\276\313\310\073\132\204\140\031  
\126\224\251\125

END

#

Trust for Certificate "Equifax Secure Global eBusiness CA"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Equifax Secure Global eBusiness CA"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\176\170\112\020\034\202\145\314\055\341\361\155\107\264\100\312
\331\012\031\105
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\217\135\167\006\047\304\230\074\133\223\170\347\327\175\233\314
END
CKA_ISSUER
MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141
\170\040\123\145\143\165\162\145\040\111\156\143\056\061\055\060
\053\006\003\125\004\003\023\044\105\161\165\151\146\141\170\040
\123\145\143\165\162\145\040\107\154\157\142\141\154\040\145\102
\165\163\151\156\145\163\163\040\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Equifax Secure eBusiness CA 1"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Equifax Secure eBusiness CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\123\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141
\170\040\123\145\143\165\162\145\040\111\156\143\056\061\046\060
\044\006\003\125\004\003\023\035\105\161\165\151\146\141\170\040
\123\145\143\165\162\145\040\145\102\165\163\151\156\145\163\163
\040\103\101\055\061
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\123\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141
\170\040\123\145\143\165\162\145\040\111\156\143\056\061\046\060
\044\006\003\125\004\003\023\035\105\161\165\151\146\141\170\040

```

\123\145\143\165\162\145\040\145\102\165\163\151\156\145\163\163  
\040\103\101\055\061  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\001\004  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\002\202\060\202\001\353\240\003\002\001\002\002\001\004  
\060\015\006\011\052\206\110\206\367\015\001\001\004\005\000\060  
\123\061\013\060\011\006\003\125\004\006\023\002\125\123\061\034  
\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141\170  
\040\123\145\143\165\162\145\040\111\156\143\056\061\046\060\044  
\006\003\125\004\003\023\035\105\161\165\151\146\141\170\040\123  
\145\143\165\162\145\040\145\102\165\163\151\156\145\163\163\040  
\103\101\055\061\060\036\027\015\071\071\060\066\062\061\060\064  
\060\060\060\060\132\027\015\062\060\060\066\062\061\060\064\060  
\060\060\060\132\060\123\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\034\060\032\006\003\125\004\012\023\023\105\161  
\165\151\146\141\170\040\123\145\143\165\162\145\040\111\156\143  
\056\061\046\060\044\006\003\125\004\003\023\035\105\161\165\151  
\146\141\170\040\123\145\143\165\162\145\040\145\102\165\163\151  
\156\145\163\163\040\103\101\055\061\060\201\237\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\201\215\000\060  
\201\211\002\201\201\000\316\057\031\274\027\267\167\336\223\251  
\137\132\015\027\117\064\032\014\230\364\042\331\131\324\304\150  
\106\360\264\065\305\205\003\040\306\257\105\245\041\121\105\101  
\353\026\130\066\062\157\342\120\142\144\371\375\121\234\252\044  
\331\364\235\203\052\207\012\041\323\022\070\064\154\215\000\156  
\132\240\331\102\356\032\041\225\371\122\114\125\132\305\017\070  
\117\106\372\155\370\056\065\326\035\174\353\342\360\260\165\200  
\310\251\023\254\276\210\357\072\156\253\137\052\070\142\002\260  
\022\173\376\217\246\003\002\003\001\000\001\243\146\060\144\060  
\021\006\011\140\206\110\001\206\370\102\001\001\004\004\003\002  
\000\007\060\017\006\003\125\035\023\001\001\377\004\005\060\003  
\001\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024  
\112\170\062\122\021\333\131\026\066\136\337\301\024\066\100\152  
\107\174\114\241\060\035\006\003\125\035\016\004\026\004\024\112  
\170\062\122\021\333\131\026\066\136\337\301\024\066\100\152\107  
\174\114\241\060\015\006\011\052\206\110\206\367\015\001\001\004  
\005\000\003\201\201\000\165\133\250\233\003\021\346\351\126\114  
\315\371\251\114\300\015\232\363\314\145\151\346\045\166\314\131  
\267\326\124\303\035\315\231\254\031\335\264\205\325\340\075\374  
\142\040\247\204\113\130\145\361\342\371\225\041\077\365\324\176  
\130\036\107\207\124\076\130\241\265\265\370\052\357\161\347\274  
\303\366\261\111\106\342\327\240\153\345\126\172\232\047\230\174  
\106\142\024\347\311\374\156\003\022\171\200\070\035\110\202\215  
\374\027\376\052\226\053\265\142\246\246\075\275\177\222\131\315  
\132\052\202\262\067\171

END

#

Trust for Certificate "Equifax Secure eBusiness CA 1"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Equifax Secure eBusiness CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\332\100\030\213\221\211\243\355\356\256\332\227\376\057\235\365  
\267\321\212\101

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\144\234\357\056\104\374\306\217\122\007\320\121\163\217\313\075

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\123\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\034\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141  
\170\040\123\145\143\165\162\145\040\111\156\143\056\061\046\060  
\044\006\003\125\004\003\023\035\105\161\165\151\146\141\170\040  
\123\145\143\165\162\145\040\145\102\165\163\151\156\145\163\163  
\040\103\101\055\061

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\004

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Equifax Secure eBusiness CA 2"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Equifax Secure eBusiness CA 2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\105\161\165\151\146\141  
\170\040\123\145\143\165\162\145\061\046\060\044\006\003\125\004  
\013\023\035\105\161\165\151\146\141\170\040\123\145\143\165\162  
\145\040\145\102\165\163\151\156\145\163\163\040\103\101\055\062

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\027\060\025\006\003\125\004\012\023\016\105\161\165\151\146\141  
\170\040\123\145\143\165\162\145\061\046\060\044\006\003\125\004  
\013\023\035\105\161\165\151\146\141\170\040\123\145\143\165\162  
\145\040\145\102\165\163\151\156\145\163\163\040\103\101\055\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\004\067\160\317\265

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\040\060\202\002\211\240\003\002\001\002\002\004\067  
\160\317\265\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\116\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\027\060\025\006\003\125\004\012\023\016\105\161\165\151  
\146\141\170\040\123\145\143\165\162\145\061\046\060\044\006\003  
\125\004\013\023\035\105\161\165\151\146\141\170\040\123\145\143  
\165\162\145\040\145\102\165\163\151\156\145\163\163\040\103\101  
\055\062\060\036\027\015\071\071\060\066\062\063\061\062\061\064  
\064\065\132\027\015\061\071\060\066\062\063\061\062\061\064\064  
\065\132\060\116\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\027\060\025\006\003\125\004\012\023\016\105\161\165\151  
\146\141\170\040\123\145\143\165\162\145\061\046\060\044\006\003  
\125\004\013\023\035\105\161\165\151\146\141\170\040\123\145\143  
\165\162\145\040\145\102\165\163\151\156\145\163\163\040\103\101  
\055\062\060\201\237\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\201\215\000\060\201\211\002\201\201\000\344  
\071\071\223\036\122\006\033\050\066\370\262\243\051\305\355\216  
\262\021\275\376\353\347\264\164\302\217\377\005\347\331\235\006  
\277\022\310\077\016\362\326\321\044\262\021\336\321\163\011\212  
\324\261\054\230\011\015\036\120\106\262\203\246\105\215\142\150  
\273\205\033\040\160\062\252\100\315\246\226\137\304\161\067\077  
\004\363\267\101\044\071\007\032\036\056\141\130\240\022\013\345  
\245\337\305\253\352\067\161\314\034\310\067\072\271\227\122\247  
\254\305\152\044\224\116\234\173\317\300\152\326\337\041\275\002  
\003\001\000\001\243\202\001\011\060\202\001\005\060\160\006\003  
\125\035\037\004\151\060\147\060\145\240\143\240\141\244\137\060  
\135\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027  
\060\025\006\003\125\004\012\023\016\105\161\165\151\146\141\170  
\040\123\145\143\165\162\145\061\046\060\044\006\003\125\004\013  
\023\035\105\161\165\151\146\141\170\040\123\145\143\165\162\145  
\040\145\102\165\163\151\156\145\163\163\040\103\101\055\062\061  
\015\060\013\006\003\125\004\003\023\004\103\122\114\061\060\032  
\006\003\125\035\020\004\023\060\021\201\017\062\060\061\071\060  
\066\062\063\061\062\061\064\064\065\132\060\013\006\003\125\035

```
\017\004\004\003\002\001\006\060\037\006\003\125\035\043\004\030
\060\026\200\024\120\236\013\352\257\136\271\040\110\246\120\152
\313\375\330\040\172\247\202\166\060\035\006\003\125\035\016\004
\026\004\024\120\236\013\352\257\136\271\040\110\246\120\152\313
\375\330\040\172\247\202\166\060\014\006\003\125\035\023\004\005
\060\003\001\001\377\060\032\006\011\052\206\110\206\366\175\007
\101\000\004\015\060\013\033\005\126\063\056\060\143\003\002\006
\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\201\201\000\014\206\202\255\350\116\032\365\216\211\047\342
\065\130\075\051\264\007\217\066\120\225\277\156\301\236\353\304
\220\262\205\250\273\267\102\340\017\007\071\337\373\236\220\262
\321\301\076\123\237\003\104\260\176\113\364\157\344\174\037\347
\342\261\344\270\232\357\303\275\316\336\013\062\064\331\336\050
\355\063\153\304\324\327\075\022\130\253\175\011\055\313\160\365
\023\212\224\241\047\244\326\160\305\155\224\265\311\175\235\240
\322\306\010\111\331\146\233\246\323\364\013\334\305\046\127\341
\221\060\352\315
```

END

#

```
Trust for Certificate "Equifax Secure eBusiness CA
2"
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Equifax Secure eBusiness CA 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\071\117\366\205\013\006\276\122\345\030\126\314\020\341\200\350
\202\263\205\314
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\252\277\277\144\227\332\230\035\157\306\010\072\225\160\063\312
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\105\161\165\151\146\141
\170\040\123\145\143\165\162\145\061\046\060\044\006\003\125\004
\013\023\035\105\161\165\151\146\141\170\040\123\145\143\165\162
\145\040\145\102\165\163\151\156\145\163\163\040\103\101\055\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\004\067\160\317\265
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED
```

CK\_BBOOL CK\_FALSE

#

# Certificate "beTRUSTed Root CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "beTRUSTed Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\127\127\061  
\022\060\020\006\003\125\004\012\023\011\142\145\124\122\125\123  
\124\145\144\061\033\060\031\006\003\125\004\003\023\022\142\145  
\124\122\125\123\124\145\144\040\122\157\157\164\040\103\101\163  
\061\032\060\030\006\003\125\004\003\023\021\142\145\124\122\125  
\123\124\145\144\040\122\157\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\127\127\061  
\022\060\020\006\003\125\004\012\023\011\142\145\124\122\125\123  
\124\145\144\061\033\060\031\006\003\125\004\003\023\022\142\145  
\124\122\125\123\124\145\144\040\122\157\157\164\040\103\101\163  
\061\032\060\030\006\003\125\004\003\023\021\142\145\124\122\125  
\123\124\145\144\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\071\117\175\207

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\054\060\202\004\024\240\003\002\001\002\002\004\071  
\117\175\207\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\127  
\127\061\022\060\020\006\003\125\004\012\023\011\142\145\124\122  
\125\123\124\145\144\061\033\060\031\006\003\125\004\003\023\022  
\142\145\124\122\125\123\124\145\144\040\122\157\157\164\040\103  
\101\163\061\032\060\030\006\003\125\004\003\023\021\142\145\124  
\122\125\123\124\145\144\040\122\157\157\164\040\103\101\060\036  
\027\015\060\060\060\066\062\060\061\064\062\061\060\064\132\027  
\015\061\060\060\066\062\060\061\063\062\061\060\064\132\060\132  
\061\013\060\011\006\003\125\004\006\023\002\127\127\061\022\060  
\020\006\003\125\004\012\023\011\142\145\124\122\125\123\124\145  
\144\061\033\060\031\006\003\125\004\003\023\022\142\145\124\122  
\125\123\124\145\144\040\122\157\157\164\040\103\101\163\061\032  
\060\030\006\003\125\004\003\023\021\142\145\124\122\125\123\124



\145\144\040\122\157\157\164\040\103\101\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\324\264\163\172\023  
\012\070\125\001\276\211\126\341\224\236\324\276\132\353\112\064  
\165\033\141\051\304\341\255\010\140\041\170\110\377\264\320\372  
\136\101\215\141\104\207\350\355\311\130\372\374\223\232\337\117  
\352\076\065\175\370\063\172\346\361\327\315\157\111\113\075\117  
\055\156\016\203\072\030\170\167\243\317\347\364\115\163\330\232  
\073\032\035\276\225\123\317\040\227\302\317\076\044\122\154\014  
\216\145\131\305\161\377\142\011\217\252\305\217\314\140\240\163  
\112\327\070\077\025\162\277\242\227\267\160\350\257\342\176\026  
\006\114\365\252\144\046\162\007\045\255\065\374\030\261\046\327  
\330\377\031\016\203\033\214\334\170\105\147\064\075\364\257\034  
\215\344\155\153\355\040\263\147\232\264\141\313\027\157\211\065  
\377\347\116\300\062\022\347\356\354\337\377\227\060\164\355\215  
\107\216\353\264\303\104\346\247\114\177\126\103\350\270\274\266  
\276\372\203\227\346\273\373\304\266\223\276\031\030\076\214\201  
\271\163\210\026\364\226\103\234\147\163\027\220\330\011\156\143  
\254\112\266\043\304\001\241\255\244\344\305\002\003\001\000\001  
\243\202\001\370\060\202\001\364\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\202\001\131\006\003\125  
\035\040\004\202\001\120\060\202\001\114\060\202\001\110\006\012  
\053\006\001\004\001\261\076\001\000\000\060\202\001\070\060\202  
\001\001\006\010\053\006\001\005\005\007\002\002\060\201\364\032  
\201\361\122\145\154\151\141\156\143\145\040\157\156\040\164\150  
\151\163\040\143\145\162\164\151\146\151\143\141\164\145\040\142  
\171\040\141\156\171\040\160\141\162\164\171\040\141\163\163\165  
\155\145\163\040\141\143\143\145\160\164\141\156\143\145\040\157  
\146\040\164\150\145\040\164\150\145\156\040\141\160\160\154\151  
\143\141\142\154\145\040\163\164\141\156\144\141\162\144\040\164  
\145\162\155\163\040\141\156\144\040\143\157\156\144\151\164\151  
\157\156\163\040\157\146\040\165\163\145\054\040\141\156\144\040  
\143\145\162\164\151\146\151\143\141\164\151\157\156\040\160\162  
\141\143\164\151\143\145\040\163\164\141\164\145\155\145\156\164  
\054\040\167\150\151\143\150\040\143\141\156\040\142\145\040\146  
\157\165\156\144\040\141\164\040\142\145\124\122\125\123\124\145  
\144\047\163\040\167\145\142\040\163\151\164\145\054\040\150\164  
\164\160\163\072\057\057\167\167\167\056\142\145\124\122\125\123  
\124\145\144\056\143\157\155\057\166\141\165\154\164\057\164\145  
\162\155\163\060\061\006\010\053\006\001\005\005\007\002\001\026  
\045\150\164\164\160\163\072\057\057\167\167\167\056\142\145\124  
\122\125\123\124\145\144\056\143\157\155\057\166\141\165\154\164  
\057\164\145\162\155\163\060\064\006\003\125\035\037\004\055\060  
\053\060\051\240\047\240\045\244\043\060\041\061\022\060\020\006  
\003\125\004\012\023\011\142\145\124\122\125\123\124\145\144\061  
\013\060\011\006\003\125\004\006\023\002\127\127\060\035\006\003  
\125\035\016\004\026\004\024\052\271\233\151\056\073\233\330\315  
\336\052\061\004\064\153\312\007\030\253\147\060\037\006\003\125

```
\035\043\004\030\060\026\200\024\052\271\233\151\056\073\233\330
\315\336\052\061\004\064\153\312\007\030\253\147\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\376\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\171\141\333\243\136\156\026\261\352\166\121\371\313\025\233\313
\151\276\346\201\153\237\050\037\145\076\335\021\205\222\324\350
\101\277\176\063\275\043\347\361\040\277\244\264\246\031\001\306
\214\215\065\174\145\244\117\011\244\326\330\043\025\005\023\247
\103\171\257\333\243\016\233\173\170\032\363\004\206\132\306\366
\214\040\107\070\111\120\006\235\162\147\072\360\230\003\255\226
\147\104\374\077\020\015\206\115\344\000\073\051\173\316\073\073
\231\206\141\045\100\204\334\023\142\267\372\312\131\326\003\036
\326\123\001\315\155\114\150\125\100\341\356\153\307\052\000\000
\110\202\263\012\001\303\140\052\014\367\202\065\356\110\206\226
\344\164\324\075\352\001\161\272\004\165\100\247\251\177\071\071
\232\125\227\051\145\256\031\125\045\005\162\107\323\350\030\334
\270\351\257\103\163\001\022\164\243\341\134\137\025\135\044\363
\371\344\364\266\147\147\022\347\144\042\212\366\245\101\246\034
\266\140\143\105\212\020\264\272\106\020\256\101\127\145\154\077
\043\020\077\041\020\131\267\344\100\335\046\014\043\366\252\256
END
```

#

```
Trust for Certificate "beTRUSTed Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "beTRUSTed Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\133\315\315\314\146\366\334\344\104\037\343\175\134\303\023\114
\106\364\160\070
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\205\312\166\132\033\321\150\042\334\242\043\022\312\306\200\064
END
CKA_ISSUER
MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\127\127\061
\022\060\020\006\003\125\004\012\023\011\142\145\124\122\125\123
\124\145\144\061\033\060\031\006\003\125\004\003\023\022\142\145
\124\122\125\123\124\145\144\040\122\157\157\164\040\103\101\163
\061\032\060\030\006\003\125\004\003\023\021\142\145\124\122\125
\123\124\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\071\117\175\207
END
```

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AddTrust Low-Value Services Root"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "AddTrust Low-Value Services  
Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\123\105\061  
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165  
\163\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024  
\101\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164  
\167\157\162\153\061\041\060\037\006\003\125\004\003\023\030\101  
\144\144\124\162\165\163\164\040\103\154\141\163\163\040\061\040  
\103\101\040\122\157\157\164

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\123\105\061  
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165  
\163\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024  
\101\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164  
\167\157\162\153\061\041\060\037\006\003\125\004\003\023\030\101  
\144\144\124\162\165\163\164\040\103\154\141\163\163\040\061\040  
\103\101\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\004\030\060\202\003\000\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\145\061\013\060\011\006\003\125\004\006\023\002\123\105\061\024  
\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165\163  
\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024\101  
\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164\167  
\157\162\153\061\041\060\037\006\003\125\004\003\023\030\101\144  
\144\124\162\165\163\164\040\103\154\141\163\163\040\061\040\103  
\101\040\122\157\157\164\060\036\027\015\060\060\060\065\063\060

\061\060\063\070\063\061\132\027\015\062\060\060\065\063\060\061  
\060\063\070\063\061\132\060\145\061\013\060\011\006\003\125\004  
\006\023\002\123\105\061\024\060\022\006\003\125\004\012\023\013  
\101\144\144\124\162\165\163\164\040\101\102\061\035\060\033\006  
\003\125\004\013\023\024\101\144\144\124\162\165\163\164\040\124  
\124\120\040\116\145\164\167\157\162\153\061\041\060\037\006\003  
\125\004\003\023\030\101\144\144\124\162\165\163\164\040\103\154  
\141\163\163\040\061\040\103\101\040\122\157\157\164\060\202\001  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\226\226  
\324\041\111\140\342\153\350\101\007\014\336\304\340\334\023\043  
\315\301\065\307\373\326\116\021\012\147\136\365\006\133\153\245  
\010\073\133\051\026\072\347\207\262\064\006\305\274\005\245\003  
\174\202\313\051\020\256\341\210\201\275\326\236\323\376\055\126  
\301\025\316\343\046\235\025\056\020\373\006\217\060\004\336\247  
\264\143\264\377\261\234\256\074\257\167\266\126\305\265\253\242  
\351\151\072\075\016\063\171\062\077\160\202\222\231\141\155\215  
\060\010\217\161\077\246\110\127\031\370\045\334\113\146\134\245  
\164\217\230\256\310\371\300\006\042\347\254\163\337\245\056\373  
\122\334\261\025\145\040\372\065\146\151\336\337\054\361\156\274  
\060\333\054\044\022\333\353\065\065\150\220\313\000\260\227\041  
\075\164\041\043\145\064\053\273\170\131\243\326\341\166\071\232  
\244\111\216\214\164\257\156\244\232\243\331\233\322\070\134\233  
\242\030\314\165\043\204\276\353\342\115\063\161\216\032\360\302  
\370\307\035\242\255\003\227\054\370\317\045\306\366\270\044\061  
\261\143\135\222\177\143\360\045\311\123\056\037\277\115\002\003  
\001\000\001\243\201\322\060\201\317\060\035\006\003\125\035\016  
\004\026\004\024\225\261\264\360\224\266\275\307\332\321\021\011  
\041\276\301\257\111\375\020\173\060\013\006\003\125\035\017\004  
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\201\217\006\003\125\035\043\004\201  
\207\060\201\204\200\024\225\261\264\360\224\266\275\307\332\321  
\021\011\041\276\301\257\111\375\020\173\241\151\244\147\060\145  
\061\013\060\011\006\003\125\004\006\023\002\123\105\061\024\060  
\022\006\003\125\004\012\023\013\101\144\144\124\162\165\163\164  
\040\101\102\061\035\060\033\006\003\125\004\013\023\024\101\144  
\144\124\162\165\163\164\040\124\124\120\040\116\145\164\167\157  
\162\153\061\041\060\037\006\003\125\004\003\023\030\101\144\144  
\124\162\165\163\164\040\103\154\141\163\163\040\061\040\103\101  
\040\122\157\157\164\202\001\001\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\054\155\144\033  
\037\315\015\335\271\001\372\226\143\064\062\110\107\231\256\227  
\355\375\162\026\246\163\107\132\364\353\335\351\365\326\373\105  
\314\051\211\104\135\277\106\071\075\350\356\274\115\124\206\036  
\035\154\343\027\047\103\341\211\126\053\251\157\162\116\111\063  
\343\162\174\052\043\232\274\076\377\050\052\355\243\377\034\043  
\272\103\127\011\147\115\113\142\006\055\370\377\154\235\140\036  
\330\034\113\175\265\061\057\331\320\174\135\370\336\153\203\030

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\170\067\127\057\350\063\007\147\337\036\307\153\052\225\166\256
\217\127\243\360\364\122\264\251\123\010\317\340\117\323\172\123
\213\375\273\034\126\066\362\376\262\266\345\166\273\325\042\145
\247\077\376\321\146\255\013\274\153\231\206\357\077\175\363\030
\062\312\173\306\343\253\144\106\225\370\046\151\331\125\203\173
\054\226\007\377\131\054\104\243\306\345\351\251\334\241\143\200
\132\041\136\041\317\123\124\360\272\157\211\333\250\252\225\317
\213\343\161\314\036\033\040\104\010\300\172\266\100\375\304\344
\065\341\035\026\034\320\274\053\216\326\161\331
END
```

#

```
Trust for Certificate "AddTrust Low-Value Services Root"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AddTrust Low-Value Services Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\314\253\016\240\114\043\001\326\151\173\335\067\237\315\022\353
\044\343\224\235
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\036\102\225\002\063\222\153\271\137\300\177\332\326\262\113\374
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024
\101\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164
\167\157\162\153\061\041\060\037\006\003\125\004\003\023\030\101
\144\144\124\162\165\163\164\040\103\154\141\163\163\040\061\040
\103\101\040\122\157\157\164
END
```

```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

# Certificate "AddTrust External Root"

#

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AddTrust External Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\046\060\044\006\003\125\004\013\023\035
\101\144\144\124\162\165\163\164\040\105\170\164\145\162\156\141
\154\040\124\124\120\040\116\145\164\167\157\162\153\061\042\060
\040\006\003\125\004\003\023\031\101\144\144\124\162\165\163\164
\040\105\170\164\145\162\156\141\154\040\103\101\040\122\157\157
\164
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\046\060\044\006\003\125\004\013\023\035
\101\144\144\124\162\165\163\164\040\105\170\164\145\162\156\141
\154\040\124\124\120\040\116\145\164\167\157\162\153\061\042\060
\040\006\003\125\004\003\023\031\101\144\144\124\162\165\163\164
\040\105\170\164\145\162\156\141\154\040\103\101\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\066\060\202\003\036\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\157\061\013\060\011\006\003\125\004\006\023\002\123\105\061\024
\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165\163
\164\040\101\102\061\046\060\044\006\003\125\004\013\023\035\101
\144\144\124\162\165\163\164\040\105\170\164\145\162\156\141\154
\040\124\124\120\040\116\145\164\167\157\162\153\061\042\060\040
\006\003\125\004\003\023\031\101\144\144\124\162\165\163\164\040
\105\170\164\145\162\156\141\154\040\103\101\040\122\157\157\164
\060\036\027\015\060\060\060\065\063\060\061\060\064\070\063\070
\132\027\015\062\060\060\065\063\060\061\060\064\070\063\070\132
\060\157\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\046\060\044\006\003\125\004\013\023\035
\101\144\144\124\162\165\163\164\040\105\170\164\145\162\156\141
\154\040\124\124\120\040\116\145\164\167\157\162\153\061\042\060
\040\006\003\125\004\003\023\031\101\144\144\124\162\165\163\164
\040\105\170\164\145\162\156\141\154\040\103\101\040\122\157\157
```

\164\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\267\367\032\063\346\362\000\004\055\071\340\116\133\355  
\037\274\154\017\315\265\372\043\266\316\336\233\021\063\227\244  
\051\114\175\223\237\275\112\274\223\355\003\032\343\217\317\345  
\155\120\132\326\227\051\224\132\200\260\111\172\333\056\225\375  
\270\312\277\067\070\055\036\076\221\101\255\160\126\307\360\117  
\077\350\062\236\164\312\310\220\124\351\306\137\017\170\235\232  
\100\074\016\254\141\252\136\024\217\236\207\241\152\120\334\327  
\232\116\257\005\263\246\161\224\234\161\263\120\140\012\307\023  
\235\070\007\206\002\250\351\250\151\046\030\220\253\114\260\117  
\043\253\072\117\204\330\337\316\237\341\151\157\273\327\102\327  
\153\104\344\307\255\356\155\101\137\162\132\161\010\067\263\171  
\145\244\131\240\224\067\367\000\057\015\302\222\162\332\320\070  
\162\333\024\250\105\304\135\052\175\267\264\326\304\356\254\315  
\023\104\267\311\053\335\103\000\045\372\141\271\151\152\130\043  
\021\267\247\063\217\126\165\131\365\315\051\327\106\267\012\053  
\145\266\323\102\157\025\262\270\173\373\357\351\135\123\325\064  
\132\047\002\003\001\000\001\243\201\334\060\201\331\060\035\006  
\003\125\035\016\004\026\004\024\255\275\230\172\064\264\046\367  
\372\304\046\124\357\003\275\340\044\313\124\032\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\201\231\006\003\125  
\035\043\004\201\221\060\201\216\200\024\255\275\230\172\064\264  
\046\367\372\304\046\124\357\003\275\340\044\313\124\032\241\163  
\244\161\060\157\061\013\060\011\006\003\125\004\006\023\002\123  
\105\061\024\060\022\006\003\125\004\012\023\013\101\144\144\124  
\162\165\163\164\040\101\102\061\046\060\044\006\003\125\004\013  
\023\035\101\144\144\124\162\165\163\164\040\105\170\164\145\162  
\156\141\154\040\124\124\120\040\116\145\164\167\157\162\153\061  
\042\060\040\006\003\125\004\003\023\031\101\144\144\124\162\165  
\163\164\040\105\170\164\145\162\156\141\154\040\103\101\040\122  
\157\157\164\202\001\001\060\015\006\011\052\206\110\206\367\015  
\001\001\005\005\000\003\202\001\001\000\260\233\340\205\045\302  
\326\043\342\017\226\006\222\235\101\230\234\331\204\171\201\331  
\036\133\024\007\043\066\145\217\260\330\167\273\254\101\154\107  
\140\203\121\260\371\062\075\347\374\366\046\023\307\200\026\245  
\277\132\374\207\317\170\171\211\041\232\342\114\007\012\206\065  
\274\362\336\121\304\322\226\267\334\176\116\356\160\375\034\071  
\353\014\002\121\024\055\216\275\026\340\301\337\106\165\347\044  
\255\354\364\102\264\205\223\160\020\147\272\235\006\065\112\030  
\323\053\172\314\121\102\241\172\143\321\346\273\241\305\053\302  
\066\276\023\015\346\275\143\176\171\173\247\011\015\100\253\152  
\335\217\212\303\366\366\214\032\102\005\121\324\105\365\237\247  
\142\041\150\025\040\103\074\231\347\174\275\044\330\251\221\027  
\163\210\077\126\033\061\070\030\264\161\017\232\315\310\016\236  
\216\056\033\341\214\230\203\313\037\061\361\104\114\306\004\163  
\111\166\140\017\307\370\275\027\200\153\056\351\314\114\016\132

```
\232\171\017\040\012\056\325\236\143\046\036\125\222\224\330\202
\027\132\173\320\274\307\217\116\206\004
END
```

```
#
```

```
Trust for Certificate "AddTrust External Root"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AddTrust External Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\002\372\363\342\221\103\124\150\140\170\127\151\115\365\344\133
\150\205\030\150
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\035\065\124\004\205\170\260\077\102\102\115\277\040\163\012\077
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\046\060\044\006\003\125\004\013\023\035
\101\144\144\124\162\165\163\164\040\105\170\164\145\162\156\141
\154\040\124\124\120\040\116\145\164\167\157\162\153\061\042\060
\040\006\003\125\004\003\023\031\101\144\144\124\162\165\163\164
\040\105\170\164\145\162\156\141\154\040\103\101\040\122\157\157
\164
END
```

```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "AddTrust Public Services Root"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AddTrust Public Services Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\123\105\061
```



\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165  
\163\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024  
\101\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164  
\167\157\162\153\061\040\060\036\006\003\125\004\003\023\027\101  
\144\144\124\162\165\163\164\040\120\165\142\154\151\143\040\103  
\101\040\122\157\157\164

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\123\105\061  
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165  
\163\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024  
\101\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164  
\167\157\162\153\061\040\060\036\006\003\125\004\003\023\027\101  
\144\144\124\162\165\163\164\040\120\165\142\154\151\143\040\103  
\101\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\025\060\202\002\375\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\144\061\013\060\011\006\003\125\004\006\023\002\123\105\061\024  
\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165\163  
\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024\101  
\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164\167  
\157\162\153\061\040\060\036\006\003\125\004\003\023\027\101\144  
\144\124\162\165\163\164\040\120\165\142\154\151\143\040\103\101  
\040\122\157\157\164\060\036\027\015\060\060\060\065\063\060\061  
\060\064\061\065\060\132\027\015\062\060\060\065\063\060\061\060  
\064\061\065\060\132\060\144\061\013\060\011\006\003\125\004\006  
\023\002\123\105\061\024\060\022\006\003\125\004\012\023\013\101  
\144\144\124\162\165\163\164\040\101\102\061\035\060\033\006\003  
\125\004\013\023\024\101\144\144\124\162\165\163\164\040\124\124  
\120\040\116\145\164\167\157\162\153\061\040\060\036\006\003\125  
\004\003\023\027\101\144\144\124\162\165\163\164\040\120\165\142  
\154\151\143\040\103\101\040\122\157\157\164\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\351\032\060\217  
\203\210\024\301\040\330\074\233\217\033\176\003\164\273\332\151  
\323\106\245\370\216\302\014\021\220\121\245\057\146\124\100\125  
\352\333\037\112\126\356\237\043\156\364\071\313\241\271\157\362  
\176\371\135\207\046\141\236\034\370\342\354\246\201\370\041\305  
\044\314\021\014\077\333\046\162\172\307\001\227\007\027\371\327  
\030\054\060\175\016\172\036\142\036\306\113\300\375\175\142\167  
\323\104\036\047\366\077\113\104\263\267\070\331\071\037\140\325

\121\222\163\003\264\000\151\343\363\024\116\356\321\334\011\317  
\167\064\106\120\260\370\021\362\376\070\171\367\007\071\376\121  
\222\227\013\133\010\137\064\206\001\255\210\227\353\146\315\136  
\321\377\334\175\362\204\332\272\167\255\334\200\010\307\247\207  
\326\125\237\227\152\350\310\021\144\272\347\031\051\077\021\263  
\170\220\204\040\122\133\021\357\170\320\203\366\325\110\220\320  
\060\034\317\200\371\140\376\171\344\210\362\335\000\353\224\105  
\353\145\224\151\100\272\300\325\264\270\272\175\004\021\250\353  
\061\005\226\224\116\130\041\216\237\320\140\375\002\003\001\000  
\001\243\201\321\060\201\316\060\035\006\003\125\035\016\004\026  
\004\024\201\076\067\330\222\260\037\167\237\134\264\253\163\252  
\347\366\064\140\057\372\060\013\006\003\125\035\017\004\004\003  
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\201\216\006\003\125\035\043\004\201\206\060  
\201\203\200\024\201\076\067\330\222\260\037\167\237\134\264\253  
\163\252\347\366\064\140\057\372\241\150\244\146\060\144\061\013  
\060\011\006\003\125\004\006\023\002\123\105\061\024\060\022\006  
\003\125\004\012\023\013\101\144\144\124\162\165\163\164\040\101  
\102\061\035\060\033\006\003\125\004\013\023\024\101\144\144\124  
\162\165\163\164\040\124\124\120\040\116\145\164\167\157\162\153  
\061\040\060\036\006\003\125\004\003\023\027\101\144\144\124\162  
\165\163\164\040\120\165\142\154\151\143\040\103\101\040\122\157  
\157\164\202\001\001\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\003\367\025\112\370\044\332  
\043\126\026\223\166\335\066\050\271\256\033\270\303\361\144\272  
\040\030\170\225\051\047\127\005\274\174\052\364\271\121\125\332  
\207\002\336\017\026\027\061\370\252\171\056\011\023\273\257\262  
\040\031\022\345\223\371\113\371\203\350\104\325\262\101\045\277  
\210\165\157\377\020\374\112\124\320\137\360\372\357\066\163\175  
\033\066\105\306\041\155\264\025\270\116\317\234\134\245\075\132  
\000\216\006\343\074\153\062\173\362\237\360\266\375\337\360\050  
\030\110\360\306\274\320\277\064\200\226\302\112\261\155\216\307  
\220\105\336\057\147\254\105\004\243\172\334\125\222\311\107\146  
\330\032\214\307\355\234\116\232\340\022\273\265\152\114\204\341  
\341\042\015\207\000\144\376\214\175\142\071\145\246\357\102\266  
\200\045\022\141\001\250\044\023\160\000\021\046\137\372\065\120  
\305\110\314\006\107\350\047\330\160\215\137\144\346\241\104\046  
\136\042\354\222\315\377\102\232\104\041\155\134\305\343\042\035  
\137\107\022\347\316\137\135\372\330\252\261\063\055\331\166\362  
\116\072\063\014\053\263\055\220\006

END

#

Trust for Certificate "AddTrust Public Services Root"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "AddTrust Public Services Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\052\266\050\110\136\170\373\363\255\236\171\020\335\153\337\231
\162\054\226\345
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\301\142\076\043\305\202\163\234\003\131\113\053\351\167\111\177
END
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024
\101\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164
\167\157\162\153\061\040\060\036\006\003\125\004\003\023\027\101
\144\144\124\162\165\163\164\040\120\165\142\154\151\143\040\103
\101\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AddTrust Qualified Certificates Root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AddTrust Qualified Certificates Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024
\101\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164
\167\157\162\153\061\043\060\041\006\003\125\004\003\023\032\101
\144\144\124\162\165\163\164\040\121\165\141\154\151\146\151\145
\144\040\103\101\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER
MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\123\105\061

```

\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165  
\163\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024  
\101\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164  
\167\157\162\153\061\043\060\041\006\003\125\004\003\023\032\101  
\144\144\124\162\165\163\164\040\121\165\141\154\151\146\151\145  
\144\040\103\101\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\001

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\036\060\202\003\006\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\147\061\013\060\011\006\003\125\004\006\023\002\123\105\061\024  
\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165\163  
\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024\101  
\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164\167  
\157\162\153\061\043\060\041\006\003\125\004\003\023\032\101\144  
\144\124\162\165\163\164\040\121\165\141\154\151\146\151\145\144  
\040\103\101\040\122\157\157\164\060\036\027\015\060\060\060\065  
\063\060\061\060\064\064\065\060\132\027\015\062\060\060\065\063  
\060\061\060\064\064\065\060\132\060\147\061\013\060\011\006\003  
\125\004\006\023\002\123\105\061\024\060\022\006\003\125\004\012  
\023\013\101\144\144\124\162\165\163\164\040\101\102\061\035\060  
\033\006\003\125\004\013\023\024\101\144\144\124\162\165\163\164  
\040\124\124\120\040\116\145\164\167\157\162\153\061\043\060\041  
\006\003\125\004\003\023\032\101\144\144\124\162\165\163\164\040  
\121\165\141\154\151\146\151\145\144\040\103\101\040\122\157\157  
\164\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\344\036\232\376\334\011\132\207\244\237\107\276\021\137  
\257\204\064\333\142\074\171\170\267\351\060\265\354\014\034\052  
\304\026\377\340\354\161\353\212\365\021\156\355\117\015\221\322  
\022\030\055\111\025\001\302\244\042\023\307\021\144\377\042\022  
\232\271\216\134\057\010\317\161\152\263\147\001\131\361\135\106  
\363\260\170\245\366\016\102\172\343\177\033\314\320\360\267\050  
\375\052\352\236\263\260\271\004\252\375\366\307\264\261\270\052  
\240\373\130\361\031\240\157\160\045\176\076\151\112\177\017\042  
\330\357\255\010\021\232\051\231\341\252\104\105\232\022\136\076  
\235\155\122\374\347\240\075\150\057\360\113\160\174\023\070\255  
\274\025\045\361\326\316\253\242\300\061\326\057\237\340\377\024  
\131\374\204\223\331\207\174\114\124\023\353\237\321\055\021\370  
\030\072\072\336\045\331\367\323\100\355\244\006\022\304\073\341  
\221\301\126\065\360\024\334\145\066\011\156\253\244\007\307\065  
\321\302\003\063\066\133\165\046\155\102\361\022\153\103\157\113  
\161\224\372\064\035\355\023\156\312\200\177\230\057\154\271\145  
\330\351\002\003\001\000\001\243\201\324\060\201\321\060\035\006  
\003\125\035\016\004\026\004\024\071\225\213\142\213\134\311\324

```
\200\272\130\017\227\077\025\010\103\314\230\247\060\013\006\003
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\201\221\006\003\125
\035\043\004\201\211\060\201\206\200\024\071\225\213\142\213\134
\311\324\200\272\130\017\227\077\025\010\103\314\230\247\241\153
\244\151\060\147\061\013\060\011\006\003\125\004\006\023\002\123
\105\061\024\060\022\006\003\125\004\012\023\013\101\144\144\124
\162\165\163\164\040\101\102\061\035\060\033\006\003\125\004\013
\023\024\101\144\144\124\162\165\163\164\040\124\124\120\040\116
\145\164\167\157\162\153\061\043\060\041\006\003\125\004\003\023
\032\101\144\144\124\162\165\163\164\040\121\165\141\154\151\146
\151\145\144\040\103\101\040\122\157\157\164\202\001\001\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001
\001\000\031\253\165\352\370\213\145\141\225\023\272\151\004\357
\206\312\023\240\307\252\117\144\033\077\030\366\250\055\054\125
\217\005\267\060\352\102\152\035\300\045\121\055\247\277\014\263
\355\357\010\177\154\074\106\032\352\030\103\337\166\314\371\146
\206\234\054\150\365\351\027\370\061\263\030\304\326\110\175\043
\114\150\301\176\273\001\024\157\305\331\156\336\273\004\102\152
\370\366\134\175\345\332\372\207\353\015\065\122\147\320\236\227
\166\005\223\077\225\307\001\346\151\125\070\177\020\141\231\311
\343\137\246\312\076\202\143\110\252\342\010\110\076\252\362\262
\205\142\246\264\247\331\275\067\234\150\265\055\126\175\260\267
\077\240\261\007\326\351\117\334\336\105\161\060\062\177\033\056
\011\371\277\122\241\356\302\200\076\006\134\056\125\100\301\033
\365\160\105\260\334\135\372\366\162\132\167\322\143\315\317\130
\211\000\102\143\077\171\071\320\104\260\202\156\101\031\350\335
\340\301\210\132\321\036\161\223\037\044\060\164\345\036\250\336
\074\047\067\177\203\256\236\167\317\360\060\261\377\113\231\350
\306\241
END
```

```
#
Trust for Certificate "AddTrust Qualified Certificates Root"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AddTrust Qualified Certificates Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\115\043\170\354\221\225\071\265\000\177\165\217\003\073\041\036
\305\115\213\317
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\047\354\071\107\315\332\132\257\342\232\001\145\041\251\114\273
END
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\147\061\013\060\011\006\003\125\004\006\023\002\123\105\061
\024\060\022\006\003\125\004\012\023\013\101\144\144\124\162\165
\163\164\040\101\102\061\035\060\033\006\003\125\004\013\023\024
\101\144\144\124\162\165\163\164\040\124\124\120\040\116\145\164
\167\157\162\153\061\043\060\041\006\003\125\004\003\023\032\101
\144\144\124\162\165\163\164\040\121\165\141\154\151\146\151\145
\144\040\103\101\040\122\157\157\164
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\001\001
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED

CK\_BBOOL CK\_FALSE

#

# Certificate "Thawte Time Stamping CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Thawte Time Stamping CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\201\213\061\013\060\011\006\003\125\004\006\023\002\132\101
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\024\060\022\006\003\125\004\007
\023\013\104\165\162\142\141\156\166\151\154\154\145\061\017\060
\015\006\003\125\004\012\023\006\124\150\141\167\164\145\061\035
\060\033\006\003\125\004\013\023\024\124\150\141\167\164\145\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\061\037\060
\035\006\003\125\004\003\023\026\124\150\141\167\164\145\040\124
\151\155\145\163\164\141\155\160\151\156\147\040\103\101
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145
\162\156\040\103\141\160\145\061\024\060\022\006\003\125\004\007
\023\013\104\165\162\142\141\156\166\151\154\154\145\061\017\060
\015\006\003\125\004\012\023\006\124\150\141\167\164\145\061\035
\060\033\006\003\125\004\013\023\024\124\150\141\167\164\145\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\061\037\060
\035\006\003\125\004\003\023\026\124\150\141\167\164\145\040\124
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\241\060\202\002\012\240\003\002\001\002\002\001\000  
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\201\213\061\013\060\011\006\003\125\004\006\023\002\132\101\061  
\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145\162  
\156\040\103\141\160\145\061\024\060\022\006\003\125\004\007\023  
\013\104\165\162\142\141\156\166\151\154\154\145\061\017\060\015  
\006\003\125\004\012\023\006\124\150\141\167\164\145\061\035\060  
\033\006\003\125\004\013\023\024\124\150\141\167\164\145\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\061\037\060\035  
\006\003\125\004\003\023\026\124\150\141\167\164\145\040\124\151  
\155\145\163\164\141\155\160\151\156\147\040\103\101\060\036\027  
\015\071\067\060\061\060\061\060\060\060\060\060\060\132\027\015  
\062\060\061\062\063\061\062\063\065\071\065\071\132\060\201\213  
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\003\125\004\013\023\024\124\150\141\167\164\145\040\103\145\162  
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\006\011\052\206\110\206\367\015\001\001\001\005\000\003\201\215  
\000\060\201\211\002\201\201\000\326\053\130\170\141\105\206\123  
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\132\337\114\172\363\331\103\035\074\020\172\171\045\333\220\376  
\360\121\347\060\326\101\000\375\237\050\337\171\276\224\273\235  
\266\024\343\043\205\327\251\101\340\114\244\171\260\053\032\213  
\362\370\073\212\076\105\254\161\222\000\264\220\101\230\373\137  
\355\372\267\056\212\370\210\067\002\003\001\000\001\243\023\060  
\021\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\004\005  
\000\003\201\201\000\147\333\342\302\346\207\075\100\203\206\067  
\065\175\037\316\232\303\014\146\040\250\272\252\004\211\206\302  
\365\020\010\015\277\313\242\005\212\320\115\066\076\364\327\357  
\151\306\136\344\260\224\157\112\271\347\336\133\210\266\173\333  
\343\047\345\166\303\360\065\301\313\265\047\233\063\171\334\220  
\246\000\236\167\372\374\315\047\224\102\026\234\323\034\150\354  
\277\134\335\345\251\173\020\012\062\164\124\023\061\213\205\003  
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\011\254\211\111\323

END

#

Trust for Certificate "Thawte Time Stamping CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Thawte Time Stamping CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\276\066\244\126\057\262\356\005\333\263\323\043\043\255\364\105  
\010\116\326\126

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CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\177\146\172\161\323\353\151\170\040\232\121\024\235\203\332\040

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\213\061\013\060\011\006\003\125\004\006\023\002\132\101  
\061\025\060\023\006\003\125\004\010\023\014\127\145\163\164\145  
\162\156\040\103\141\160\145\061\024\060\022\006\003\125\004\007  
\023\013\104\165\162\142\141\156\166\151\154\154\145\061\017\060  
\015\006\003\125\004\012\023\006\124\150\141\167\164\145\061\035  
\060\033\006\003\125\004\013\023\024\124\150\141\167\164\145\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\061\037\060  
\035\006\003\125\004\003\023\026\124\150\141\167\164\145\040\124  
\151\155\145\163\164\141\155\160\151\156\147\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Entrust.net Global Secure Server CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust.net Global Secure Server CA"

CKA\_CERTIFICATE\_TYPE

CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL



\060\201\272\061\024\060\022\006\003\125\004\012\023\013\105\156  
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\004\013\024\066\167\167\167\056\145\156\164\162\165\163\164\056  
\156\145\164\057\123\123\114\137\103\120\123\040\151\156\143\157  
\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151\155  
\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006\003  
\125\004\013\023\034\050\143\051\040\062\060\060\060\040\105\156  
\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164\145  
\144\061\072\060\070\006\003\125\004\003\023\061\105\156\164\162  
\165\163\164\056\156\145\164\040\123\145\143\165\162\145\040\123  
\145\162\166\145\162\040\103\145\162\164\151\146\151\143\141\164  
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CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\156\145\164\057\123\123\114\137\103\120\123\040\151\156\143\157  
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\125\004\013\023\034\050\143\051\040\062\060\060\060\040\105\156  
\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164\145  
\144\061\072\060\070\006\003\125\004\003\023\061\105\156\164\162  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\070\233\021\074

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CKA\_VALUE MULTILINE\_OCTAL

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\003\125\004\013\024\066\167\167\167\056\145\156\164\162\165\163  
\164\056\156\145\164\057\123\123\114\137\103\120\123\040\151\156  
\143\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154  
\151\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043  
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\105\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151  
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\040\123\145\162\166\145\162\040\103\145\162\164\151\146\151\143  
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\027\015\062\060\060\062\060\064\061\067\065\060\060\060\132\060  
\201\272\061\024\060\022\006\003\125\004\012\023\013\105\156\164  
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\234\376\373\213\222\234\260\362\156\042\060\035\006\003\125\035  
\016\004\026\004\024\313\154\300\153\343\273\076\313\374\042\234  
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\001\001\004\005\000\003\201\201\000\142\333\201\221\316\310\232
\167\102\057\354\275\047\243\123\017\120\033\352\116\222\360\251
\257\251\240\272\110\141\313\357\311\006\357\037\325\364\356\337
\126\055\346\312\152\031\163\252\123\276\222\263\120\002\266\205
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END

#

Trust for Certificate "Entrust.net Global Secure Server CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust.net Global Secure Server CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\211\071\127\156\027\215\367\005\170\017\314\136\310\117\204\366
\045\072\110\223
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\235\146\152\314\377\325\365\103\264\277\214\026\321\053\250\231
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END

CKA\_ISSUER

MULTILINE\_OCTAL

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\060\201\272\061\024\060\022\006\003\125\004\012\023\013\105\156
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\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151\155
\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006\003
\125\004\013\023\034\050\143\051\040\062\060\060\060\040\105\156
\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164\145
\144\061\072\060\070\006\003\125\004\003\023\061\105\156\164\162
\165\163\164\056\156\145\164\040\123\145\143\165\162\145\040\123
\145\162\166\145\162\040\103\145\162\164\151\146\151\143\141\164
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\004\070\233\021\074
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING

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CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust.net Global Secure Personal CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust.net Global Secure Personal CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
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\156\145\164\057\107\103\103\101\137\103\120\123\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
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\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\154\151\145\156\164\040
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\164\150\157\162\151\164\171
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CKA_ID
UTF8 "0"
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\156\145\164\057\107\103\103\101\137\103\120\123\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
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\164\056\156\145\164\057\107\103\103\101\137\103\120\123\040\151  
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Trust for Certificate "Entrust.net Global Secure Personal CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust.net Global Secure Personal CA"
CKA_CERT_SHA1_HASH
MULTILINE_OCTAL
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MULTILINE\_OCTAL

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CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Entrust Root Certification Authority"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

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\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
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END

CKA\_ID

UTF8 "0"

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Trust for Certificate

"Entrust Root Certification Authority"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Entrust Root Certification Authority"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
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CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
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END

CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL

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CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "AOL Time Warner Root Certification Authority 1"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "AOL Time Warner Root Certification Authority 1"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\035\060\033\006\003\125\004\012\023\024\101\117\114\040\124  
\151\155\145\040\127\141\162\156\145\162\040\111\156\143\056\061  
\034\060\032\006\003\125\004\013\023\023\101\155\145\162\151\143  
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\067\060  
\065\006\003\125\004\003\023\056\101\117\114\040\124\151\155\145  
\040\127\141\162\156\145\162\040\122\157\157\164\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157

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UTF8 "0"
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\034\060\032\006\003\125\004\013\023\023\101\155\145\162\151\143
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\067\060
\065\006\003\125\004\003\023\056\101\117\114\040\124\151\155\145
\040\127\141\162\156\145\162\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\061
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CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\346\060\202\002\316\240\003\002\001\002\002\001\001
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\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\035\060\033\006\003\125\004\012\023\024\101\117\114\040\124\151
\155\145\040\127\141\162\156\145\162\040\111\156\143\056\061\034
\060\032\006\003\125\004\013\023\023\101\155\145\162\151\143\141
\040\117\156\154\151\156\145\040\111\156\143\056\061\067\060\065
\006\003\125\004\003\023\056\101\117\114\040\124\151\155\145\040
\127\141\162\156\145\162\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\040\061\060\036\027\015\060\062\060\065\062\071\060
\066\060\060\060\060\132\027\015\063\067\061\061\062\060\061\065
\060\063\060\060\132\060\201\203\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024
\101\117\114\040\124\151\155\145\040\127\141\162\156\145\162\040
\111\156\143\056\061\034\060\032\006\003\125\004\013\023\023\101
\155\145\162\151\143\141\040\117\156\154\151\156\145\040\111\156
\143\056\061\067\060\065\006\003\125\004\003\023\056\101\117\114
\040\124\151\155\145\040\127\141\162\156\145\162\040\122\157\157
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\040\061\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\231\336\217\303
\045\243\151\064\350\005\367\164\271\277\132\227\031\271\057\224
\322\223\345\055\211\312\204\174\077\020\103\033\214\213\174\204
\130\370\044\174\110\317\052\375\300\025\331\030\176\204\032\027
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\104\057\242\142\101\263\273\030\041\333\312\161\074\214\354\266  
\271\015\237\357\121\357\115\173\022\362\013\014\341\254\100\217  
\167\177\260\312\170\161\014\135\026\161\160\242\327\302\072\205  
\315\016\232\304\340\000\260\325\045\352\334\053\344\224\055\070  
\234\211\101\127\144\050\145\031\034\266\104\264\310\061\153\216  
\001\173\166\131\045\177\025\034\204\010\174\163\145\040\012\241  
\004\056\032\062\250\232\040\261\234\054\041\131\347\373\317\356  
\160\055\010\312\143\076\054\233\223\031\152\244\302\227\377\267  
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\001\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004  
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004  
\024\241\066\060\026\313\206\220\000\105\200\123\261\217\310\330  
\075\174\276\137\022\060\037\006\003\125\035\043\004\030\060\026  
\200\024\241\066\060\026\313\206\220\000\105\200\123\261\217\310  
\330\075\174\276\137\022\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367\015  
\001\001\005\005\000\003\202\001\001\000\212\040\030\245\276\263  
\057\264\246\204\000\100\060\051\372\264\024\163\114\171\105\247  
\366\160\340\350\176\144\036\012\225\174\152\141\302\357\116\037  
\276\377\311\231\037\007\141\112\341\135\114\315\255\356\320\122  
\062\331\131\062\274\332\171\162\326\173\011\350\002\201\065\323  
\012\337\021\035\311\171\240\200\115\376\132\327\126\326\355\017  
\052\257\247\030\165\063\014\352\301\141\005\117\152\232\211\362  
\215\271\237\056\357\260\137\132\000\353\276\255\240\370\104\005  
\147\274\313\004\357\236\144\305\351\310\077\005\277\306\057\007  
\034\303\066\161\206\312\070\146\112\315\326\270\113\306\154\247  
\227\073\372\023\055\156\043\141\207\241\143\102\254\302\313\227  
\237\141\150\317\055\114\004\235\327\045\117\012\016\115\220\213  
\030\126\250\223\110\127\334\157\256\275\236\147\127\167\211\120  
\263\276\021\233\105\147\203\206\031\207\323\230\275\010\032\026  
\037\130\202\013\341\226\151\005\113\216\354\203\121\061\007\325  
\324\237\377\131\173\250\156\205\317\323\113\251\111\260\137\260  
\071\050\150\016\163\335\045\232\336\022

END

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Trust for Certificate "AOL Time Warner Root Certification Authority 1"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "AOL Time Warner Root Certification Authority 1"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
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\373\041\026\111  
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CKA_CERT_MD5_HASH MULTILINE_OCTAL
\347\172\334\261\037\156\006\037\164\154\131\026\047\303\113\300
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CKA_ISSUER MULTILINE_OCTAL
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\061\035\060\033\006\003\125\004\012\023\024\101\117\114\040\124
\151\155\145\040\127\141\162\156\145\162\040\111\156\143\056\061
\034\060\032\006\003\125\004\013\023\023\101\155\145\162\151\143
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\067\060
\065\006\003\125\004\003\023\056\101\117\114\040\124\151\155\145
\040\127\141\162\156\145\162\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AOL Time Warner Root Certification Authority 2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AOL Time Warner Root Certification Authority 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
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\034\060\032\006\003\125\004\013\023\023\101\155\145\162\151\143
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\067\060
\065\006\003\125\004\003\023\056\101\117\114\040\124\151\155\145
\040\127\141\162\156\145\162\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
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CKA_ISSUER MULTILINE_OCTAL
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\040\127\141\162\156\145\162\040\122\157\157\164\040\103\145\162  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

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\155\145\040\127\141\162\156\145\162\040\111\156\143\056\061\034  
\060\032\006\003\125\004\013\023\023\101\155\145\162\151\143\141  
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\134\232\044\041\054\115\016\161\037\246\254\135\105\164\003\230  
\304\124\214\026\112\101\167\206\225\165\014\107\001\146\140\374  
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\231\013\216\024\327\122\275\236\151\303\206\002\013\352\166\165  
\061\011\316\063\031\041\205\103\346\211\055\237\045\067\147\361  
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\270\311\271\011\041\237\310\077\006\305\322\351\022\106\000\116  
\173\010\353\102\075\053\110\156\235\147\335\113\002\344\104\363  
\223\031\245\047\316\151\172\276\147\323\374\120\244\054\253\303  
\153\271\343\200\114\317\005\141\113\053\334\033\271\246\322\320  
\252\365\053\163\373\316\220\065\237\014\122\034\277\134\041\141  
\021\133\025\113\251\044\121\374\244\134\367\027\235\260\322\372  
\007\351\217\126\344\032\214\150\212\004\323\174\132\343\236\242  
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\202\321\272\152\202\033\263\113\164\021\363\214\167\326\237\277  
\334\067\244\247\125\004\057\324\061\350\323\106\271\003\174\332  
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\110\337\344\021\344\226\106\275\154\002\076\326\121\310\225\027
\001\025\251\362\252\252\362\277\057\145\033\157\320\271\032\223
\365\216\065\304\200\207\076\224\057\146\344\351\250\377\101\234
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\205\321\133\077\322\034\163\062\335\372\271\370\214\317\002\207
\172\232\226\344\355\117\211\215\123\103\253\016\023\300\001\025
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END
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Trust for Certificate "AOL Time Warner Root Certification Authority 2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AOL Time Warner Root Certification Authority 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\374\041\232\166\021\057\166\301\305\010\203\074\232\057\242\272
\204\254\010\172
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CKA_CERT_MD5_HASH MULTILINE_OCTAL
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\040\127\141\162\156\145\162\040\122\157\157\164\040\103\145\162
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\162\151\164\171\040\062
END
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```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
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```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```



```

#
# Certificate "beTRUSTed Root CA-Baltimore Implementation"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "beTRUSTed Root CA-Baltimore Implementation"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\146\061\022\060\020\006\003\125\004\012\023\011\142\145\124
\122\125\123\124\145\144\061\033\060\031\006\003\125\004\013\023
\022\142\145\124\122\125\123\124\145\144\040\122\157\157\164\040
\103\101\163\061\063\060\061\006\003\125\004\003\023\052\142\145
\124\122\125\123\124\145\144\040\122\157\157\164\040\103\101\055
\102\141\154\164\151\155\157\162\145\040\111\155\160\154\145\155
\145\156\164\141\164\151\157\156
END
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UTF8 "0"
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\022\142\145\124\122\125\123\124\145\144\040\122\157\157\164\040
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\102\141\154\164\151\155\157\162\145\040\111\155\160\154\145\155
\145\156\164\141\164\151\157\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\074\265\075\106
END
CKA_VALUE MULTILINE_OCTAL
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\101\055\102\141\154\164\151\155\157\162\145\040\111\155\160\154
\145\155\145\156\164\141\164\151\157\156\060\036\027\015\060\062
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\123\124\145\144\040\122\157\157\164\040\103\101\163\061\063\060
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END

#

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Trust for Certificate "beTRUSTed Root CA-Baltimore Implementation"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "beTRUSTed Root CA-Baltimore Implementation"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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END

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CKA_CERT_MD5_HASH MULTILINE_OCTAL
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END

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CKA_SERIAL_NUMBER MULTILINE_OCTAL
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "beTRUSTed Root CA - Entrust Implementation"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "beTRUSTed
Root CA - Entrust Implementation"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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END
CKA_ID UTF8 "0"
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END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
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END
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\060\252\204\204\026\060\035\006\003\125\035\016\004\026\004\024  
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\252\204\204\026\060\014\006\003\125\035\023\004\005\060\003\001  
\001\377\060\035\006\011\052\206\110\206\366\175\007\101\000\004  
\020\060\016\033\010\126\066\056\060\072\064\056\060\003\002\004  
\220\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\052\270\027\316\037\020\224\353\270\232\267  
\271\137\354\332\367\222\044\254\334\222\073\307\040\215\362\231  
\345\135\070\241\302\064\355\305\023\131\134\005\265\053\117\141  
\233\221\373\101\374\374\325\074\115\230\166\006\365\201\175\353  
\335\220\346\321\126\124\332\343\055\014\237\021\062\224\042\001  
\172\366\154\054\164\147\004\314\245\217\216\054\263\103\265\224  
\242\320\175\351\142\177\006\276\047\001\203\236\072\375\212\356  
\230\103\112\153\327\265\227\073\072\277\117\155\264\143\372\063  
\000\064\056\055\155\226\311\173\312\231\143\272\276\364\366\060  
\240\055\230\226\351\126\104\005\251\104\243\141\020\353\202\241  
\147\135\274\135\047\165\252\212\050\066\052\070\222\331\335\244  
\136\000\245\314\314\174\051\052\336\050\220\253\267\341\266\377  
\175\045\013\100\330\252\064\243\055\336\007\353\137\316\012\335  
\312\176\072\175\046\301\142\150\072\346\057\067\363\201\206\041  
\304\251\144\252\357\105\066\321\032\146\174\370\351\067\326\326

```
\141\276\242\255\110\347\337\346\164\376\323\155\175\322\045\334
\254\142\127\251\367
END
```

```
#
```

```
Trust for Certificate "beTRUSTed Root CA - Entrust Implementation"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "beTRUSTed Root CA - Entrust Implementation"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\162\231\171\023\354\233\015\256\145\321\266\327\262\112\166\243
\256\302\356\026
END
```

```
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\175\206\220\217\133\361\362\100\300\367\075\142\265\244\251\073
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\146\061\022\060\020\006\003\125\004\012\023\011\142\145\124
\122\125\123\124\145\144\061\033\060\031\006\003\125\004\013\023
\022\142\145\124\122\125\123\124\145\144\040\122\157\157\164\040
\103\101\163\061\063\060\061\006\003\125\004\003\023\052\142\145
\124\122\125\123\124\145\144\040\122\157\157\164\040\103\101\040
\055\040\105\156\164\162\165\163\164\040\111\155\160\154\145\155
\145\156\164\141\164\151\157\156
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\074\265\117\100
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "beTRUSTed Root CA - RSA Implementation"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS
CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "beTRUSTed Root CA - RSA Implementation"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\022\060\020\006\003\125\004\012\023\011\142\145\124
```

\122\125\123\124\145\144\061\033\060\031\006\003\125\004\013\023  
\022\142\145\124\122\125\123\124\145\144\040\122\157\157\164\040  
\103\101\163\061\057\060\055\006\003\125\004\003\023\046\142\145  
\124\122\125\123\124\145\144\040\122\157\157\164\040\103\101\040  
\055\040\122\123\101\040\111\155\160\154\145\155\145\156\164\141  
\164\151\157\156

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\142\061\022\060\020\006\003\125\004\012\023\011\142\145\124  
\122\125\123\124\145\144\061\033\060\031\006\003\125\004\013\023  
\022\142\145\124\122\125\123\124\145\144\040\122\157\157\164\040  
\103\101\163\061\057\060\055\006\003\125\004\003\023\046\142\145  
\124\122\125\123\124\145\144\040\122\157\157\164\040\103\101\040  
\055\040\122\123\101\040\111\155\160\154\145\155\145\156\164\141  
\164\151\157\156

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\073\131\307\173\315\133\127\236\275\067\122\254\166\264  
\252\032

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\150\060\202\004\120\240\003\002\001\002\002\020\073  
\131\307\173\315\133\127\236\275\067\122\254\166\264\252\032\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\142  
\061\022\060\020\006\003\125\004\012\023\011\142\145\124\122\125  
\123\124\145\144\061\033\060\031\006\003\125\004\013\023\022\142  
\145\124\122\125\123\124\145\144\040\122\157\157\164\040\103\101  
\163\061\057\060\055\006\003\125\004\003\023\046\142\145\124\122  
\125\123\124\145\144\040\122\157\157\164\040\103\101\040\055\040  
\122\123\101\040\111\155\160\154\145\155\145\156\164\141\164\151  
\157\156\060\036\027\015\060\062\060\064\061\061\061\061\061\070  
\061\063\132\027\015\062\062\060\064\061\062\061\061\060\067\062  
\065\132\060\142\061\022\060\020\006\003\125\004\012\023\011\142  
\145\124\122\125\123\124\145\144\061\033\060\031\006\003\125\004  
\013\023\022\142\145\124\122\125\123\124\145\144\040\122\157\157  
\164\040\103\101\163\061\057\060\055\006\003\125\004\003\023\046  
\142\145\124\122\125\123\124\145\144\040\122\157\157\164\040\103  
\101\040\055\040\122\123\101\040\111\155\160\154\145\155\145\156  
\164\141\164\151\157\156\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\344\272\064\060\011\216\127\320\271  
\006\054\157\156\044\200\042\277\135\103\246\372\117\254\202\347  
\034\150\160\205\033\243\156\265\252\170\331\156\007\113\077\351  
\337\365\352\350\124\241\141\212\016\057\151\165\030\267\014\345  
\024\215\161\156\230\270\125\374\014\225\320\233\156\341\055\210  
\324\072\100\153\222\361\231\226\144\336\333\377\170\364\356\226



\035\107\211\174\324\276\271\210\167\043\072\011\346\004\236\155  
\252\136\322\310\275\232\116\031\337\211\352\133\016\176\303\344  
\264\360\340\151\073\210\017\101\220\370\324\161\103\044\301\217  
\046\113\073\126\351\377\214\154\067\351\105\255\205\214\123\303  
\140\206\220\112\226\311\263\124\260\273\027\360\034\105\331\324  
\033\031\144\126\012\031\367\314\341\377\206\257\176\130\136\254  
\172\220\037\311\050\071\105\173\242\266\307\234\037\332\205\324  
\041\206\131\060\223\276\123\063\067\366\357\101\317\063\307\253  
\162\153\045\365\363\123\033\014\114\056\361\165\113\357\240\207  
\367\376\212\025\320\154\325\313\371\150\123\271\160\025\023\302  
\365\056\373\103\065\165\055\002\003\001\000\001\243\202\002\030  
\060\202\002\024\060\014\006\003\125\035\023\004\005\060\003\001  
\001\377\060\202\001\265\006\003\125\035\040\004\202\001\254\060  
\202\001\250\060\202\001\244\006\017\053\006\001\004\001\261\076  
\000\000\003\011\050\203\221\061\060\202\001\217\060\101\006\010  
\053\006\001\005\005\007\002\001\026\065\150\164\164\160\072\057  
\057\167\167\167\056\142\145\164\162\165\163\164\145\144\056\143  
\157\155\057\160\162\157\144\165\143\164\163\137\163\145\162\166  
\151\143\145\163\057\151\156\144\145\170\056\150\164\155\154\060  
\202\001\110\006\010\053\006\001\005\005\007\002\002\060\202\001  
\072\032\202\001\066\122\145\154\151\141\156\143\145\040\157\156  
\040\157\162\040\165\163\145\040\157\146\040\164\150\151\163\040  
\103\145\162\164\151\146\151\143\141\164\145\040\143\162\145\141  
\164\145\163\040\141\156\040\141\143\153\156\157\167\154\145\144  
\147\155\145\156\164\040\141\156\144\040\141\143\143\145\160\164  
\141\156\143\145\040\157\146\040\164\150\145\040\164\150\145\156  
\040\141\160\160\154\151\143\141\142\154\145\040\163\164\141\156  
\144\141\162\144\040\164\145\162\155\163\040\141\156\144\040\143  
\157\156\144\151\164\151\157\156\163\040\157\146\040\165\163\145  
\054\040\164\150\145\040\103\145\162\164\151\146\151\143\141\164  
\151\157\156\040\120\162\141\143\164\151\143\145\040\123\164\141  
\164\145\155\145\156\164\040\141\156\144\040\164\150\145\040\122  
\145\154\171\151\156\147\040\120\141\162\164\171\040\101\147\162  
\145\145\155\145\156\164\054\040\167\150\151\143\150\040\143\141  
\156\040\142\145\040\146\157\165\156\144\040\141\164\040\164\150  
\145\040\142\145\124\122\125\123\124\145\144\040\167\145\142\040  
\163\151\164\145\054\040\150\164\164\160\072\057\057\167\167\167  
\056\142\145\164\162\165\163\164\145\144\056\143\157\155\057\160  
\162\157\144\165\143\164\163\137\163\145\162\166\151\143\145\163  
\057\151\156\144\145\170\056\150\164\155\154\060\013\006\003\125  
\035\017\004\004\003\002\001\006\060\037\006\003\125\035\043\004  
\030\060\026\200\024\251\354\024\176\371\331\103\314\123\053\024  
\255\317\367\360\131\211\101\315\031\060\035\006\003\125\035\016  
\004\026\004\024\251\354\024\176\371\331\103\314\123\053\024\255  
\317\367\360\131\211\101\315\031\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\333\227\260\165  
\352\014\304\301\230\312\126\005\300\250\255\046\110\257\055\040  
\350\201\307\266\337\103\301\054\035\165\113\324\102\215\347\172

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\250\164\334\146\102\131\207\263\365\151\155\331\251\236\263\175
\034\061\301\365\124\342\131\044\111\345\356\275\071\246\153\212
\230\104\373\233\327\052\203\227\064\055\307\175\065\114\055\064
\270\076\015\304\354\210\047\257\236\222\375\120\141\202\250\140
\007\024\123\314\145\023\301\366\107\104\151\322\061\310\246\335
\056\263\013\336\112\215\133\075\253\015\302\065\122\242\126\067
\314\062\213\050\205\102\234\221\100\172\160\053\070\066\325\341
\163\032\037\345\372\176\137\334\326\234\073\060\352\333\300\133
\047\134\323\163\007\301\302\363\114\233\157\237\033\312\036\252
\250\070\063\011\130\262\256\374\007\350\066\334\125\272\057\117
\100\376\172\275\006\246\201\301\223\042\174\206\021\012\006\167
\110\256\065\267\057\062\232\141\136\213\276\051\237\051\044\210
\126\071\054\250\322\253\226\003\132\324\110\237\271\100\204\013
\230\150\373\001\103\326\033\342\011\261\227\034
```

END

#

Trust for Certificate "beTRUSTed Root CA - RSA Implementation"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "beTRUSTed Root CA - RSA Implementation"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\035\202\131\312\041\047\303\313\301\154\331\062\366\054\145\051
\214\250\207\022
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\206\102\005\011\274\247\235\354\035\363\056\016\272\330\035\320
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\142\061\022\060\020\006\003\125\004\012\023\011\142\145\124
\122\125\123\124\145\144\061\033\060\031\006\003\125\004\013\023
\022\142\145\124\122\125\123\124\145\144\040\122\157\157\164\040
\103\101\163\061\057\060\055\006\003\125\004\003\023\046\142\145
\124\122\125\123\124\145\144\040\122\157\157\164\040\103\101\040
\055\040\122\123\101\040\111\155\160\154\145\155\145\156\164\141
\164\151\157\156
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\073\131\307\173\315\133\127\236\275\067\122\254\166\264
\252\032
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_EMAIL\_PROTECTION

CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "RSA Security 2048 v3"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "RSA Security 2048 v3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\072\061\031\060\027\006\003\125\004\012\023\020\122\123\101  
\040\123\145\143\165\162\151\164\171\040\111\156\143\061\035\060  
\033\006\003\125\004\013\023\024\122\123\101\040\123\145\143\165  
\162\151\164\171\040\062\060\064\070\040\126\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\072\061\031\060\027\006\003\125\004\012\023\020\122\123\101  
\040\123\145\143\165\162\151\164\171\040\111\156\143\061\035\060  
\033\006\003\125\004\013\023\024\122\123\101\040\123\145\143\165  
\162\151\164\171\040\062\060\064\070\040\126\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\012\001\001\001\000\000\002\174\000\000\000\012\000\000  
\000\002

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\141\060\202\002\111\240\003\002\001\002\002\020\012  
\001\001\001\000\000\002\174\000\000\000\012\000\000\000\002\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\072  
\061\031\060\027\006\003\125\004\012\023\020\122\123\101\040\123  
\145\143\165\162\151\164\171\040\111\156\143\061\035\060\033\006  
\003\125\004\013\023\024\122\123\101\040\123\145\143\165\162\151  
\164\171\040\062\060\064\070\040\126\063\060\036\027\015\060\061  
\060\062\062\062\062\060\063\071\062\063\132\027\015\062\066\060  
\062\062\062\062\060\063\071\062\063\132\060\072\061\031\060\027  
\006\003\125\004\012\023\020\122\123\101\040\123\145\143\165\162  
\151\164\171\040\111\156\143\061\035\060\033\006\003\125\004\013  
\023\024\122\123\101\040\123\145\143\165\162\151\164\171\040\062  
\060\064\070\040\126\063\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\267\217\125\161\322\200\335\173\151  
\171\247\360\030\120\062\074\142\147\366\012\225\007\335\346\033  
\363\236\331\322\101\124\153\255\237\174\276\031\315\373\106\253  
\101\150\036\030\352\125\310\057\221\170\211\050\373\047\051\140

\377\337\217\214\073\311\111\233\265\244\224\316\001\352\076\265  
\143\173\177\046\375\031\335\300\041\275\204\321\055\117\106\303  
\116\334\330\067\071\073\050\257\313\235\032\352\053\257\041\245  
\301\043\042\270\270\033\132\023\207\127\203\321\360\040\347\350  
\117\043\102\260\000\245\175\211\351\351\141\163\224\230\161\046  
\274\055\152\340\367\115\360\361\266\052\070\061\201\015\051\341  
\000\301\121\017\114\122\370\004\132\252\175\162\323\270\207\052  
\273\143\020\003\052\263\241\117\015\132\136\106\267\075\016\365  
\164\354\231\237\371\075\044\201\210\246\335\140\124\350\225\066  
\075\306\011\223\232\243\022\200\000\125\231\031\107\275\320\245  
\174\303\272\373\037\367\365\017\370\254\271\265\364\067\230\023  
\030\336\205\133\267\014\202\073\207\157\225\071\130\060\332\156  
\001\150\027\042\314\300\013\002\003\001\000\001\243\143\060\141  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\037\006\003\125\035\043\004\030\060\026\200\024\007\303  
\121\060\244\252\351\105\256\065\044\372\377\044\054\063\320\261  
\235\214\060\035\006\003\125\035\016\004\026\004\024\007\303\121  
\060\244\252\351\105\256\065\044\372\377\044\054\063\320\261\235  
\214\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\137\076\206\166\156\270\065\074\116\066\034  
\036\171\230\277\375\325\022\021\171\122\016\356\061\211\274\335  
\177\371\321\306\025\041\350\212\001\124\015\072\373\124\271\326  
\143\324\261\252\226\115\242\102\115\324\123\037\213\020\336\177  
\145\276\140\023\047\161\210\244\163\343\204\143\321\244\125\341  
\120\223\346\033\016\171\320\147\274\106\310\277\077\027\015\225  
\346\306\220\151\336\347\264\057\336\225\175\320\022\077\075\076  
\177\115\077\024\150\365\021\120\325\301\364\220\245\010\035\061  
\140\377\140\214\043\124\012\257\376\241\156\305\321\172\052\150  
\170\317\036\202\012\040\264\037\255\345\205\262\152\150\165\116  
\255\045\067\224\205\276\275\241\324\352\267\014\113\074\235\350  
\022\000\360\137\254\015\341\254\160\143\163\367\177\171\237\062  
\045\102\164\005\200\050\277\275\301\044\226\130\025\261\027\041  
\351\211\113\333\007\210\147\364\025\255\160\076\057\115\205\073  
\302\267\333\376\230\150\043\211\341\164\017\336\364\305\204\143  
\051\033\314\313\007\311\000\244\251\327\302\042\117\147\327\167  
\354\040\005\141\336

END

#

Trust for Certificate "RSA Security 2048 v3"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "RSA Security 2048 v3"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\045\001\220\031\317\373\331\231\034\267\150\045\164\215\224\137

```

\060\223\225\102
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\167\015\031\261\041\375\000\102\234\076\014\245\335\013\002\216
END
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\031\060\027\006\003\125\004\012\023\020\122\123\101
\040\123\145\143\165\162\151\164\171\040\111\156\143\061\035\060
\033\006\003\125\004\013\023\024\122\123\101\040\123\145\143\165
\162\151\164\171\040\062\060\064\070\040\126\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\001\001\000\000\002\174\000\000\000\012\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "RSA Security 1024 v3"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "RSA Security 1024 v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\072\061\031\060\027\006\003\125\004\012\023\020\122\123\101
\040\123\145\143\165\162\151\164\171\040\111\156\143\061\035\060
\033\006\003\125\004\013\023\024\122\123\101\040\123\145\143\165
\162\151\164\171\040\061\060\062\064\040\126\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\031\060\027\006\003\125\004\012\023\020\122\123\101
\040\123\145\143\165\162\151\164\171\040\111\156\143\061\035\060
\033\006\003\125\004\013\023\024\122\123\101\040\123\145\143\165
\162\151\164\171\040\061\060\062\064\040\126\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\001\001\000\000\002\174\000\000\000\013\000\000
\000\002
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\134\060\202\001\305\240\003\002\001\002\002\020\012  
\001\001\001\000\000\002\174\000\000\000\013\000\000\000\002\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\072  
\061\031\060\027\006\003\125\004\012\023\020\122\123\101\040\123  
\145\143\165\162\151\164\171\040\111\156\143\061\035\060\033\006  
\003\125\004\013\023\024\122\123\101\040\123\145\143\165\162\151  
\164\171\040\061\060\062\064\040\126\063\060\036\027\015\060\061  
\060\062\062\062\062\061\060\061\064\071\132\027\015\062\066\060  
\062\062\062\062\060\060\061\064\071\132\060\072\061\031\060\027  
\006\003\125\004\012\023\020\122\123\101\040\123\145\143\165\162  
\151\164\171\040\111\156\143\061\035\060\033\006\003\125\004\013  
\023\024\122\123\101\040\123\145\143\165\162\151\164\171\040\061  
\060\062\064\040\126\063\060\201\237\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\201\215\000\060\201\211\002  
\201\201\000\325\335\376\146\011\317\044\074\076\256\201\116\116  
\212\304\151\200\133\131\073\337\271\115\114\312\265\055\303\047  
\055\074\257\000\102\155\274\050\246\226\317\177\327\130\254\203  
\012\243\125\265\173\027\220\025\204\114\212\356\046\231\334\130  
\357\307\070\246\252\257\320\216\102\310\142\327\253\254\251\373  
\112\175\277\352\376\022\115\335\377\046\055\157\066\124\150\310  
\322\204\126\356\222\123\141\011\263\077\071\233\250\311\233\275  
\316\237\176\324\031\152\026\051\030\276\327\072\151\334\045\133  
\063\032\121\002\003\001\000\001\243\143\060\141\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\037\006  
\003\125\035\043\004\030\060\026\200\024\304\300\034\244\007\224  
\375\315\115\001\324\124\332\245\014\137\336\256\005\132\060\035  
\006\003\125\035\016\004\026\004\024\304\300\034\244\007\224\375  
\315\115\001\324\124\332\245\014\137\336\256\005\132\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\201\201\000  
\077\055\152\343\046\103\225\175\211\227\145\373\165\344\162\035  
\106\127\304\141\153\151\237\022\233\054\325\132\350\300\242\360  
\103\225\343\037\351\166\315\334\353\274\223\240\145\012\307\115  
\117\137\247\257\242\106\024\271\014\363\314\275\152\156\267\235  
\336\045\102\320\124\377\236\150\163\143\334\044\353\042\277\250  
\162\362\136\000\341\015\116\072\103\156\231\116\077\211\170\003  
\230\312\363\125\314\235\256\216\301\252\105\230\372\217\032\240  
\215\210\043\361\025\101\015\245\106\076\221\077\213\353\367\161  
END

#

Trust for Certificate "RSA Security 1024 v3"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "RSA Security 1024 v3"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\074\273\135\340\374\326\071\174\005\210\345\146\227\275\106\052
\275\371\134\166
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\072\345\120\260\071\276\307\106\066\063\241\376\202\076\215\224
END
CKA_ISSUER MULTILINE_OCTAL
\060\072\061\031\060\027\006\003\125\004\012\023\020\122\123\101
\040\123\145\143\165\162\151\164\171\040\111\156\143\061\035\060
\033\006\003\125\004\013\023\024\122\123\101\040\123\145\143\165
\162\151\164\171\040\061\060\062\064\040\126\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\001\001\000\000\002\174\000\000\000\013\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GeoTrust Global CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Global CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\102\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\033\060\031\006\003\125\004\003
\023\022\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\033\060\031\006\003\125\004\003
\023\022\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101
END
CKA_SERIAL_NUMBER

```

MULTILINE\_OCTAL

\002\003\002\064\126

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\124\060\202\002\074\240\003\002\001\002\002\003\002  
\064\126\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\060\102\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162  
\165\163\164\040\111\156\143\056\061\033\060\031\006\003\125\004  
\003\023\022\107\145\157\124\162\165\163\164\040\107\154\157\142  
\141\154\040\103\101\060\036\027\015\060\062\060\065\062\061\060  
\064\060\060\060\060\132\027\015\062\062\060\065\062\061\060\064  
\060\060\060\060\132\060\102\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015\107  
\145\157\124\162\165\163\164\040\111\156\143\056\061\033\060\031  
\006\003\125\004\003\023\022\107\145\157\124\162\165\163\164\040  
\107\154\157\142\141\154\040\103\101\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\332\314\030\143\060\375  
\364\027\043\032\126\176\133\337\074\154\070\344\161\267\170\221  
\324\274\241\330\114\370\250\103\266\003\351\115\041\007\010\210  
\332\130\057\146\071\051\275\005\170\213\235\070\350\005\267\152  
\176\161\244\346\304\140\246\260\357\200\344\211\050\017\236\045  
\326\355\203\363\255\246\221\307\230\311\102\030\065\024\235\255  
\230\106\222\056\117\312\361\207\103\301\026\225\127\055\120\357  
\211\055\200\172\127\255\362\356\137\153\322\000\215\271\024\370  
\024\025\065\331\300\106\243\173\162\310\221\277\311\125\053\315  
\320\227\076\234\046\144\314\337\316\203\031\161\312\116\346\324  
\325\173\251\031\315\125\336\310\354\322\136\070\123\345\134\117  
\214\055\376\120\043\066\374\146\346\313\216\244\071\031\000\267  
\225\002\071\221\013\016\376\070\056\321\035\005\232\366\115\076  
\157\017\007\035\257\054\036\217\140\071\342\372\066\123\023\071  
\324\136\046\053\333\075\250\024\275\062\353\030\003\050\122\004  
\161\345\253\063\075\341\070\273\007\066\204\142\234\171\352\026  
\060\364\137\300\053\350\161\153\344\371\002\003\001\000\001\243  
\123\060\121\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\300  
\172\230\150\215\211\373\253\005\144\014\021\175\252\175\145\270  
\312\314\116\060\037\006\003\125\035\043\004\030\060\026\200\024  
\300\172\230\150\215\211\373\253\005\144\014\021\175\252\175\145  
\270\312\314\116\060\015\006\011\052\206\110\206\367\015\001\001  
\005\005\000\003\202\001\001\000\065\343\051\152\345\057\135\124  
\216\051\120\224\237\231\032\024\344\217\170\052\142\224\242\047  
\147\236\320\317\032\136\107\351\301\262\244\317\335\101\032\005  
\116\233\113\356\112\157\125\122\263\044\241\067\012\353\144\166  
\052\056\054\363\375\073\165\220\277\372\161\330\307\075\067\322  
\265\005\225\142\271\246\336\211\075\066\173\070\167\110\227\254  
\246\040\217\056\246\311\014\302\262\231\105\000\307\316\021\121



```
\042\042\340\245\352\266\025\110\011\144\352\136\117\164\367\005
\076\307\212\122\014\333\025\264\275\155\233\345\306\261\124\150
\251\343\151\220\266\232\245\017\270\271\077\040\175\256\112\265
\270\234\344\035\266\253\346\224\245\301\307\203\255\333\365\047
\207\016\004\154\325\377\335\240\135\355\207\122\267\053\025\002
\256\071\246\152\164\351\332\304\347\274\115\064\036\251\134\115
\063\137\222\011\057\210\146\135\167\227\307\035\166\023\251\325
\345\361\026\011\021\065\325\254\333\044\161\160\054\230\126\013
\331\027\264\321\343\121\053\136\165\350\325\320\334\117\064\355
\302\005\146\200\241\313\346\063
END
```

```
#
Trust for Certificate "GeoTrust Global CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Global CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\336\050\364\244\377\345\271\057\243\305\003\321\243\111\247\371
\226\052\202\022
END
```

```
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\367\165\253\051\373\121\116\267\167\136\377\005\074\231\216\365
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\033\060\031\006\003\125\004\003
\023\022\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\002\064\126
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "GeoTrust Global CA 2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Global CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\035\060\033\006\003\125\004\003
\023\024\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\035\060\033\006\003\125\004\003
\023\024\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\146\060\202\002\116\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061\026
\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165\163
\164\040\111\156\143\056\061\035\060\033\006\003\125\004\003\023
\024\107\145\157\124\162\165\163\164\040\107\154\157\142\141\154
\040\103\101\040\062\060\036\027\015\060\064\060\063\060\064\060
\065\060\060\060\060\132\027\015\061\071\060\063\060\064\060\065
\060\060\060\060\132\060\104\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015\107
\145\157\124\162\165\163\164\040\111\156\143\056\061\035\060\033
\006\003\125\004\003\023\024\107\145\157\124\162\165\163\164\040
\107\154\157\142\141\154\040\103\101\040\062\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\357\074\115\100
\075\020\337\073\123\000\341\147\376\224\140\025\076\205\210\361
\211\015\220\310\050\043\231\005\350\053\040\235\306\363\140\106
\330\301\262\325\214\061\331\334\040\171\044\201\277\065\062\374
\143\151\333\261\052\153\356\041\130\362\010\351\170\313\157\313
\374\026\122\310\221\304\377\075\163\336\261\076\247\302\175\146
\301\365\176\122\044\032\342\325\147\221\320\202\020\327\170\113
\117\053\102\071\275\144\055\100\240\260\020\323\070\110\106\210
\241\014\273\072\063\052\142\230\373\000\235\023\131\177\157\073
\162\252\356\246\017\206\371\005\141\352\147\177\014\067\226\213
\346\151\026\107\021\302\047\131\003\263\246\140\302\041\100\126
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```
\372\240\307\175\072\023\343\354\127\307\263\326\256\235\211\200
\367\001\347\054\366\226\053\023\015\171\054\331\300\344\206\173
\113\214\014\162\202\212\373\027\315\000\154\072\023\074\260\204
\207\113\026\172\051\262\117\333\035\324\013\363\146\067\275\330
\366\127\273\136\044\172\270\074\213\271\372\222\032\032\204\236
\330\164\217\252\033\177\136\364\376\105\042\041\002\003\001\000
\001\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\161\070\066\362\002\061\123\107\053\156\272\145\106\251\020
\025\130\040\005\011\060\037\006\003\125\035\043\004\030\060\026
\200\024\161\070\066\362\002\061\123\107\053\156\272\145\106\251
\020\025\130\040\005\011\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\001\001\000\003\367\265\053\253\135
\020\374\173\262\262\136\254\233\016\176\123\170\131\076\102\004
\376\165\243\255\254\201\116\327\002\213\136\304\055\310\122\166
\307\054\037\374\201\062\230\321\113\306\222\223\063\065\061\057
\374\330\035\104\335\340\201\177\235\351\213\341\144\221\142\013
\071\010\214\254\164\235\131\331\172\131\122\227\021\271\026\173
\157\105\323\226\331\061\175\002\066\017\234\073\156\317\054\015
\003\106\105\353\240\364\177\110\104\306\010\100\314\336\033\160
\265\051\255\272\213\073\064\145\165\033\161\041\035\054\024\012
\260\226\225\270\326\352\362\145\373\051\272\117\352\221\223\164
\151\266\362\377\341\032\320\014\321\166\205\313\212\045\275\227
\136\054\157\025\231\046\347\266\051\377\042\354\311\002\307\126
\000\315\111\271\263\154\173\123\004\032\342\250\311\252\022\005
\043\302\316\347\273\004\002\314\300\107\242\344\304\051\057\133
\105\127\211\121\356\074\353\122\010\377\007\065\036\237\065\152
\107\112\126\230\321\132\205\037\214\365\042\277\253\316\203\363
\342\042\051\256\175\203\100\250\272\154
END
```

#

```
Trust for Certificate "GeoTrust Global CA 2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Global CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\251\351\170\010\024\067\130\210\362\005\031\260\155\053\015\053
\140\026\220\175
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\016\100\247\154\336\003\135\217\321\017\344\321\215\371\154\251
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

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\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\035\060\033\006\003\125\004\003
\023\024\107\145\157\124\162\165\163\164\040\107\154\157\142\141
\154\040\103\101\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GeoTrust Universal CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Universal CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\036\060\034\006\003\125\004\003
\023\025\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\036\060\034\006\003\125\004\003
\023\025\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\150\060\202\003\120\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061\026
\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165\163
\164\040\111\156\143\056\061\036\060\034\006\003\125\004\003\023

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\025\107\145\157\124\162\165\163\164\040\125\156\151\166\145\162  
\163\141\154\040\103\101\060\036\027\015\060\064\060\063\060\064  
\060\065\060\060\060\060\132\027\015\062\071\060\063\060\064\060  
\065\060\060\060\060\132\060\105\061\013\060\011\006\003\125\004  
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015  
\107\145\157\124\162\165\163\164\040\111\156\143\056\061\036\060  
\034\006\003\125\004\003\023\025\107\145\157\124\162\165\163\164  
\040\125\156\151\166\145\162\163\141\154\040\103\101\060\202\002  
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\246\025  
\125\240\243\306\340\037\214\235\041\120\327\301\276\053\133\265  
\244\236\241\331\162\130\275\000\033\114\277\141\311\024\035\105  
\202\253\306\035\200\326\075\353\020\234\072\257\155\044\370\274  
\161\001\236\006\365\174\137\036\301\016\125\312\203\232\131\060  
\256\031\313\060\110\225\355\042\067\215\364\112\232\162\146\076  
\255\225\300\340\026\000\340\020\037\053\061\016\327\224\124\323  
\102\063\240\064\035\036\105\166\335\117\312\030\067\354\205\025  
\172\031\010\374\325\307\234\360\362\251\056\020\251\222\346\075  
\130\075\251\026\150\074\057\165\041\030\177\050\167\245\341\141  
\027\267\246\351\370\036\231\333\163\156\364\012\242\041\154\356  
\332\252\205\222\146\257\366\172\153\202\332\272\042\010\065\017  
\317\102\361\065\372\152\356\176\053\045\314\072\021\344\155\257  
\163\262\166\035\255\320\262\170\147\032\244\071\034\121\013\147  
\126\203\375\070\135\015\316\335\360\273\053\226\037\336\173\062  
\122\375\035\273\265\006\241\262\041\136\245\326\225\150\177\360  
\231\236\334\105\010\076\347\322\011\015\065\224\335\200\116\123  
\227\327\265\011\104\040\144\026\027\003\002\114\123\015\150\336  
\325\252\162\115\223\155\202\016\333\234\275\317\264\363\134\135  
\124\172\151\011\226\326\333\021\301\215\165\250\264\317\071\310  
\316\074\274\044\174\346\142\312\341\275\175\247\275\127\145\013  
\344\376\045\355\266\151\020\334\050\032\106\275\001\035\320\227  
\265\341\230\073\300\067\144\326\075\224\356\013\341\365\050\256  
\013\126\277\161\213\043\051\101\216\206\305\113\122\173\330\161  
\253\037\212\025\246\073\203\132\327\130\001\121\306\114\101\331  
\177\330\101\147\162\242\050\337\140\203\251\236\310\173\374\123  
\163\162\131\365\223\172\027\166\016\316\367\345\134\331\013\125  
\064\242\252\133\265\152\124\347\023\312\127\354\227\155\364\136  
\006\057\105\213\130\324\043\026\222\344\026\156\050\143\131\060  
\337\120\001\234\143\211\032\237\333\027\224\202\160\067\303\044  
\236\232\107\326\132\312\116\250\151\211\162\037\221\154\333\176  
\236\033\255\307\037\163\335\054\117\031\145\375\177\223\100\020  
\056\322\360\355\074\236\056\050\076\151\046\063\305\173\002\003  
\001\000\001\243\143\060\141\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\332\273\056\252\260\014\270\210\046\121\164\134\155  
\003\323\300\330\217\172\326\060\037\006\003\125\035\043\004\030  
\060\026\200\024\332\273\056\252\260\014\270\210\046\121\164\134  
\155\003\323\300\330\217\172\326\060\016\006\003\125\035\017\001

\001\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\002\001\000\061\170\346\307  
\265\337\270\224\100\311\161\304\250\065\354\106\035\302\205\363  
\050\130\206\260\013\374\216\262\071\217\104\125\253\144\204\134  
\151\251\320\232\070\074\372\345\037\065\345\104\343\200\171\224  
\150\244\273\304\237\075\341\064\315\060\106\213\124\053\225\245  
\357\367\077\231\204\375\065\346\317\061\306\334\152\277\247\327  
\043\010\341\230\136\303\132\010\166\251\246\257\167\057\267\140  
\275\104\106\152\357\227\377\163\225\301\216\350\223\373\375\061  
\267\354\127\021\021\105\233\060\361\032\210\071\301\117\074\247  
\000\325\307\374\253\155\200\042\160\245\014\340\135\004\051\002  
\373\313\240\221\321\174\326\303\176\120\325\235\130\276\101\070  
\353\271\165\074\025\331\233\311\112\203\131\300\332\123\375\063  
\273\066\030\233\205\017\025\335\356\055\254\166\223\271\331\001  
\215\110\020\250\373\365\070\206\361\333\012\306\275\204\243\043  
\101\336\326\167\157\205\324\205\034\120\340\256\121\212\272\215  
\076\166\342\271\312\047\362\137\237\357\156\131\015\006\330\053  
\027\244\322\174\153\273\137\024\032\110\217\032\114\347\263\107  
\034\216\114\105\053\040\356\110\337\347\335\011\216\030\250\332  
\100\215\222\046\021\123\141\163\135\353\275\347\304\115\051\067  
\141\353\254\071\055\147\056\026\326\365\000\203\205\241\314\177  
\166\304\175\344\267\113\146\357\003\105\140\151\266\014\122\226  
\222\204\136\246\243\265\244\076\053\331\314\330\033\107\252\362  
\104\332\117\371\003\350\360\024\313\077\363\203\336\320\301\124  
\343\267\350\012\067\115\213\040\131\003\060\031\241\054\310\275  
\021\037\337\256\311\112\305\363\047\146\146\206\254\150\221\377  
\331\346\123\034\017\213\134\151\145\012\046\310\036\064\303\135  
\121\173\327\251\234\006\241\066\335\325\211\224\274\331\344\055  
\014\136\011\154\010\227\174\243\075\174\223\377\077\241\024\247  
\317\265\135\353\333\333\034\304\166\337\210\271\275\105\005\225  
\033\256\374\106\152\114\257\110\343\316\256\017\322\176\353\346  
\154\234\117\201\152\172\144\254\273\076\325\347\313\166\056\305  
\247\110\301\134\220\017\313\310\077\372\346\062\341\215\033\157  
\244\346\216\330\371\051\110\212\316\163\376\054

END

#

Trust for Certificate

"GeoTrust Universal CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GeoTrust Universal CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\346\041\363\065\103\171\005\232\113\150\060\235\212\057\164\042  
\025\207\354\171

END

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CKA_CERT_MD5_HASH MULTILINE_OCTAL
\222\145\130\213\242\032\061\162\163\150\134\264\245\172\007\110
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\036\060\034\006\003\125\004\003
\023\025\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
# Certificate "GeoTrust Universal CA 2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Universal CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\040\060\036\006\003\125\004\003
\023\027\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\040\060\036\006\003\125\004\003
\023\027\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE
```

MULTILINE\_OCTAL

\060\202\005\154\060\202\003\124\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061\026  
\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165\163  
\164\040\111\156\143\056\061\040\060\036\006\003\125\004\003\023  
\027\107\145\157\124\162\165\163\164\040\125\156\151\166\145\162  
\163\141\154\040\103\101\040\062\060\036\027\015\060\064\060\063  
\060\064\060\065\060\060\060\060\132\027\015\062\071\060\063\060  
\064\060\065\060\060\060\060\132\060\107\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004\012  
\023\015\107\145\157\124\162\165\163\164\040\111\156\143\056\061  
\040\060\036\006\003\125\004\003\023\027\107\145\157\124\162\165  
\163\164\040\125\156\151\166\145\162\163\141\154\040\103\101\040  
\062\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002  
\001\000\263\124\122\301\311\076\362\331\334\261\123\032\131\051  
\347\261\303\105\050\345\327\321\355\305\305\113\241\252\164\173  
\127\257\112\046\374\330\365\136\247\156\031\333\164\014\117\065  
\133\062\013\001\343\333\353\172\167\065\352\252\132\340\326\350  
\241\127\224\360\220\243\164\126\224\104\060\003\036\134\116\053  
\205\046\164\202\172\014\166\240\157\115\316\101\055\240\025\006  
\024\137\267\102\315\173\217\130\141\064\334\052\010\371\056\303  
\001\246\042\104\034\114\007\202\346\133\316\320\112\174\004\323  
\031\163\047\360\252\230\177\056\257\116\353\207\036\044\167\152  
\135\266\350\133\105\272\334\303\241\005\157\126\216\217\020\046  
\245\111\303\056\327\101\207\042\340\117\206\312\140\265\352\241  
\143\300\001\227\020\171\275\000\074\022\155\053\025\261\254\113  
\261\356\030\271\116\226\334\334\166\377\073\276\317\137\003\300  
\374\073\350\276\106\033\377\332\100\302\122\367\376\343\072\367  
\152\167\065\320\332\215\353\136\030\152\061\307\036\272\074\033  
\050\326\153\124\306\252\133\327\242\054\033\031\314\242\002\366  
\233\131\275\067\153\206\265\155\202\272\330\352\311\126\274\251  
\066\130\375\076\031\363\355\014\046\251\223\070\370\117\301\135  
\042\006\320\227\352\341\255\306\125\340\201\053\050\203\072\372  
\364\173\041\121\000\276\122\070\316\315\146\171\250\364\201\126  
\342\320\203\011\107\121\133\120\152\317\333\110\032\135\076\367  
\313\366\145\367\154\361\225\370\002\073\062\126\202\071\172\133  
\275\057\211\033\277\241\264\350\377\177\215\214\337\003\361\140  
\116\130\021\114\353\243\077\020\053\203\232\001\163\331\224\155  
\204\000\047\146\254\360\160\100\011\102\222\255\117\223\015\141  
\011\121\044\330\222\325\013\224\141\262\207\262\355\377\232\065  
\377\205\124\312\355\104\103\254\033\074\026\153\110\112\012\034  
\100\210\037\222\302\013\000\005\377\362\310\002\112\244\252\251  
\314\231\226\234\057\130\340\175\341\276\273\007\334\137\004\162  
\134\061\064\303\354\137\055\340\075\144\220\042\346\321\354\270  
\056\335\131\256\331\241\067\277\124\065\334\163\062\117\214\004  
\036\063\262\311\106\361\330\134\310\125\120\311\150\275\250\272



\066\011\002\003\001\000\001\243\143\060\141\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\166\363\125\341\372\244\066\373\360  
\237\134\142\161\355\074\364\107\070\020\053\060\037\006\003\125  
\035\043\004\030\060\026\200\024\166\363\125\341\372\244\066\373  
\360\237\134\142\161\355\074\364\107\070\020\053\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001\000  
\146\301\306\043\363\331\340\056\156\137\350\317\256\260\260\045  
\115\053\370\073\130\233\100\044\067\132\313\253\026\111\377\263  
\165\171\063\241\057\155\160\027\064\221\376\147\176\217\354\233  
\345\136\202\251\125\037\057\334\324\121\007\022\376\254\026\076  
\054\065\306\143\374\334\020\353\015\243\252\320\174\314\321\320  
\057\121\056\304\024\132\336\350\031\341\076\306\314\244\051\347  
\056\204\252\006\060\170\166\124\163\050\230\131\070\340\000\015  
\142\323\102\175\041\237\256\075\072\214\325\372\167\015\030\053  
\026\016\137\066\341\374\052\265\060\044\317\340\143\014\173\130  
\032\376\231\272\102\022\261\221\364\174\150\342\310\350\257\054  
\352\311\176\256\273\052\075\015\025\334\064\225\266\030\164\250  
\152\017\307\264\364\023\304\344\133\355\012\322\244\227\114\052  
\355\057\154\022\211\075\361\047\160\252\152\003\122\041\237\100  
\250\147\120\362\363\132\037\337\337\043\366\334\170\116\346\230  
\117\125\072\123\343\357\362\364\237\307\174\330\130\257\051\042  
\227\270\340\275\221\056\260\166\354\127\021\317\357\051\104\363  
\351\205\172\140\143\344\135\063\211\027\331\061\252\332\326\363  
\030\065\162\317\207\053\057\143\043\204\135\204\214\077\127\240  
\210\374\231\221\050\046\151\231\324\217\227\104\276\216\325\110  
\261\244\050\051\361\025\264\341\345\236\335\370\217\246\157\046  
\327\011\074\072\034\021\016\246\154\067\367\255\104\207\054\050  
\307\330\164\202\263\320\157\112\127\273\065\051\047\240\213\350  
\041\247\207\144\066\135\314\330\026\254\307\262\047\100\222\125  
\070\050\215\121\156\335\024\147\123\154\161\134\046\204\115\165  
\132\266\176\140\126\251\115\255\373\233\036\227\363\015\331\322  
\227\124\167\332\075\022\267\340\036\357\010\006\254\371\205\207  
\351\242\334\257\176\030\022\203\375\126\027\101\056\325\051\202  
\175\231\364\061\366\161\251\317\054\001\047\245\005\271\252\262  
\110\116\052\357\237\223\122\121\225\074\122\163\216\126\114\027  
\100\300\011\050\344\213\152\110\123\333\354\315\125\125\361\306  
\370\351\242\054\114\246\321\046\137\176\257\132\114\332\037\246  
\362\034\054\176\256\002\026\322\126\320\057\127\123\107\350\222  
END

#

Trust for Certificate "GeoTrust Universal CA 2"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "GeoTrust Universal CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\067\232\031\173\101\205\105\065\014\246\003\151\363\074\056\257
\107\117\040\171
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\064\374\270\320\066\333\236\024\263\302\362\333\217\344\224\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\040\060\036\006\003\125\004\003
\023\027\107\145\157\124\162\165\163\164\040\125\156\151\166\145
\162\163\141\154\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "UTN-USER First-Network Applications"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UTN-USER First-Network
Applications"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\243\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\053\060\051\006\003\125
\004\003\023\042\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\116\145\164\167\157\162\153\040\101\160\160\154\151\143
\141\164\151\157\156\163
END
CKA_ID UTF8 "0"

```

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\243\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060  
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153  
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023  
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116  
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023  
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162  
\164\162\165\163\164\056\143\157\155\061\053\060\051\006\003\125  
\004\003\023\042\125\124\116\055\125\123\105\122\106\151\162\163  
\164\055\116\145\164\167\157\162\153\040\101\160\160\154\151\143  
\141\164\151\157\156\163

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\104\276\014\213\120\000\044\264\021\323\066\060\113\300  
\063\167

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\144\060\202\003\114\240\003\002\001\002\002\020\104  
\276\014\213\120\000\044\264\021\323\066\060\113\300\063\167\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\243\061\013\060\011\006\003\125\004\006\023\002\125\123\061\013  
\060\011\006\003\125\004\010\023\002\125\124\061\027\060\025\006  
\003\125\004\007\023\016\123\141\154\164\040\114\141\153\145\040  
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124  
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164  
\167\157\162\153\061\041\060\037\006\003\125\004\013\023\030\150  
\164\164\160\072\057\057\167\167\167\056\165\163\145\162\164\162  
\165\163\164\056\143\157\155\061\053\060\051\006\003\125\004\003  
\023\042\125\124\116\055\125\123\105\122\106\151\162\163\164\055  
\116\145\164\167\157\162\153\040\101\160\160\154\151\143\141\164  
\151\157\156\163\060\036\027\015\071\071\060\067\060\071\061\070  
\064\070\063\071\132\027\015\061\071\060\067\060\071\061\070\065  
\067\064\071\132\060\201\243\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\013\060\011\006\003\125\004\010\023\002\125  
\124\061\027\060\025\006\003\125\004\007\023\016\123\141\154\164  
\040\114\141\153\145\040\103\151\164\171\061\036\060\034\006\003  
\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122\125  
\123\124\040\116\145\164\167\157\162\153\061\041\060\037\006\003  
\125\004\013\023\030\150\164\164\160\072\057\057\167\167\167\056  
\165\163\145\162\164\162\165\163\164\056\143\157\155\061\053\060  
\051\006\003\125\004\003\023\042\125\124\116\055\125\123\105\122  
\106\151\162\163\164\055\116\145\164\167\157\162\153\040\101\160  
\160\154\151\143\141\164\151\157\156\163\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\263\373\221\241\344  
\066\125\205\254\006\064\133\240\232\130\262\370\265\017\005\167

\203\256\062\261\166\222\150\354\043\112\311\166\077\343\234\266  
\067\171\003\271\253\151\215\007\045\266\031\147\344\260\033\030  
\163\141\112\350\176\315\323\057\144\343\246\174\014\372\027\200  
\243\015\107\211\117\121\161\057\356\374\077\371\270\026\200\207  
\211\223\045\040\232\103\202\151\044\166\050\131\065\241\035\300  
\177\203\006\144\026\040\054\323\111\244\205\264\300\141\177\121  
\010\370\150\025\221\200\313\245\325\356\073\072\364\204\004\136  
\140\131\247\214\064\162\356\270\170\305\321\073\022\112\157\176  
\145\047\271\244\125\305\271\157\103\244\305\035\054\231\300\122  
\244\170\114\025\263\100\230\010\153\103\306\001\260\172\173\365  
\153\034\042\077\313\357\377\250\320\072\113\166\025\236\322\321  
\306\056\343\333\127\033\062\242\270\157\350\206\246\077\160\253  
\345\160\222\253\104\036\100\120\373\234\243\142\344\154\156\240  
\310\336\342\200\102\372\351\057\350\316\062\004\217\174\215\267  
\034\243\065\074\025\335\236\303\256\227\245\002\003\001\000\001  
\243\201\221\060\201\216\060\013\006\003\125\035\017\004\004\003  
\002\001\306\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\372  
\206\311\333\340\272\351\170\365\113\250\326\025\337\360\323\341  
\152\024\074\060\117\006\003\125\035\037\004\110\060\106\060\104  
\240\102\240\100\206\076\150\164\164\160\072\057\057\143\162\154  
\056\165\163\145\162\164\162\165\163\164\056\143\157\155\057\125  
\124\116\055\125\123\105\122\106\151\162\163\164\055\116\145\164  
\167\157\162\153\101\160\160\154\151\143\141\164\151\157\156\163  
\056\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001  
\005\005\000\003\202\001\001\000\244\363\045\314\321\324\221\203  
\042\320\314\062\253\233\226\116\064\221\124\040\045\064\141\137  
\052\002\025\341\213\252\377\175\144\121\317\012\377\274\175\330  
\041\152\170\313\057\121\157\370\102\035\063\275\353\265\173\224  
\303\303\251\240\055\337\321\051\037\035\376\217\077\273\250\105  
\052\177\321\156\125\044\342\273\002\373\061\077\276\350\274\354  
\100\053\370\001\324\126\070\344\312\104\202\265\141\040\041\147  
\145\366\360\013\347\064\370\245\302\234\243\134\100\037\205\223  
\225\006\336\117\324\047\251\266\245\374\026\315\163\061\077\270  
\145\047\317\324\123\032\360\254\156\237\117\005\014\003\201\247  
\204\051\304\132\275\144\127\162\255\073\317\067\030\246\230\306  
\255\006\264\334\010\243\004\325\051\244\226\232\022\147\112\214  
\140\105\235\361\043\232\260\000\234\150\265\230\120\323\357\216  
\056\222\145\261\110\076\041\276\025\060\052\015\265\014\243\153  
\077\256\177\127\365\037\226\174\337\157\335\202\060\054\145\033  
\100\112\315\150\271\162\354\161\166\354\124\216\037\205\014\001  
\152\372\246\070\254\037\304\204

END

#

Trust for Certificate "UTN-USER First-Network Applications"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UTN-USER First-Network Applications"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\135\230\234\333\025\226\021\066\121\145\144\033\126\017\333\352
\052\302\076\361
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\277\140\131\243\133\272\366\247\166\102\332\157\032\173\120\317
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\243\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\053\060\051\006\003\125
\004\003\023\042\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\116\145\164\167\157\162\153\040\101\160\160\154\151\143
\141\164\151\157\156\163
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\104\276\014\213\120\000\044\264\021\323\066\060\113\300
\063\167
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "America Online Root Certification Authority 1"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "America Online Root Certification Authority
1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060
\064\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040

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\117\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\040\061

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\034\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143  
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060  
\064\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040  
\117\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\040\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\003\244\060\202\002\214\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\034  
\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143\141  
\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060\064  
\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040\117  
\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\061\060\036\027\015\060\062\060\065\062\070\060\066  
\060\060\060\060\132\027\015\063\067\061\061\061\071\062\060\064  
\063\060\060\132\060\143\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\034\060\032\006\003\125\004\012\023\023\101\155  
\145\162\151\143\141\040\117\156\154\151\156\145\040\111\156\143  
\056\061\066\060\064\006\003\125\004\003\023\055\101\155\145\162  
\151\143\141\040\117\156\154\151\156\145\040\122\157\157\164\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\061\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\250\057\350\244\151\006  
\003\107\303\351\052\230\377\031\242\160\232\306\120\262\176\245  
\337\150\115\033\174\017\266\227\150\175\055\246\213\227\351\144  
\206\311\243\357\240\206\277\140\145\234\113\124\210\302\110\305  
\112\071\277\024\343\131\125\345\031\264\164\310\264\005\071\134  
\026\245\342\225\005\340\022\256\131\213\242\063\150\130\034\246  
\324\025\267\330\237\327\334\161\253\176\232\277\233\216\063\017  
\042\375\037\056\347\007\066\357\142\071\305\335\313\272\045\024  
\043\336\014\306\075\074\316\202\010\346\146\076\332\121\073\026  
\072\243\005\177\240\334\207\325\234\374\162\251\240\175\170\344  
\267\061\125\036\145\273\324\141\260\041\140\355\020\062\162\305

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\222\045\036\370\220\112\030\170\107\337\176\060\067\076\120\033
\333\034\323\153\232\206\123\007\260\357\254\006\170\370\204\231
\376\041\215\114\200\266\014\202\366\146\160\171\032\323\117\243
\317\361\317\106\260\113\017\076\335\210\142\270\214\251\011\050
\073\172\307\227\341\036\345\364\237\300\300\256\044\240\310\241
\331\017\326\173\046\202\151\062\075\247\002\003\001\000\001\243
\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\000
\255\331\243\366\171\366\156\164\251\177\063\075\201\027\327\114
\317\063\336\060\037\006\003\125\035\043\004\030\060\026\200\024
\000\255\331\243\366\171\366\156\164\251\177\063\075\201\027\327
\114\317\063\336\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\003\202\001\001\000\174\212\321\037\030\067\202\340
\270\260\243\355\126\225\310\142\141\234\005\242\315\302\142\046
\141\315\020\026\327\314\264\145\064\320\021\212\255\250\251\005
\146\357\164\363\155\137\235\231\257\366\213\373\353\122\262\005
\230\242\157\052\305\124\275\045\275\137\256\310\206\352\106\054
\301\263\275\301\351\111\160\030\026\227\010\023\214\040\340\033
\056\072\107\313\036\344\000\060\225\133\364\105\243\300\032\260
\001\116\253\275\300\043\156\143\077\200\112\305\007\355\334\342
\157\307\301\142\361\343\162\326\004\310\164\147\013\372\210\253
\241\001\310\157\360\024\257\322\231\315\121\223\176\355\056\070
\307\275\316\106\120\075\162\343\171\045\235\233\210\053\020\040
\335\245\270\062\237\215\340\051\337\041\164\206\202\333\057\202
\060\306\307\065\206\263\371\226\137\106\333\014\105\375\363\120
\303\157\306\303\110\255\106\246\341\047\107\012\035\016\233\266
\302\167\177\143\362\340\175\032\276\374\340\337\327\307\247\154
\260\371\256\272\074\375\164\264\021\350\130\015\200\274\323\250
\200\072\231\355\165\314\106\173
END
```

```
#
Trust for Certificate "America Online Root Certification Authority 1"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL
CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "America Online Root Certification Authority 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\071\041\301\025\301\135\016\312\134\313\133\304\360\175\041\330
\005\013\126\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\024\361\010\255\235\372\144\342\211\347\034\317\250\255\175\136
END
CKA_ISSUER MULTILINE_OCTAL
```

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\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060
\064\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040
\117\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\040\061
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\001\001
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED

CK\_BBOOL CK\_FALSE

#

# Certificate "America Online Root Certification Authority 2"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "America Online Root Certification Authority 2"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060
\064\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040
\117\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\040\062
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060
\064\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040
\117\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\040\062
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\001\001
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END

CKA\_VALUE MULTILINE\_OCTAL

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\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\034  
\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143\141  
\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060\064  
\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040\117  
\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\040\062\060\036\027\015\060\062\060\065\062\070\060\066  
\060\060\060\060\132\027\015\063\067\060\071\062\071\061\064\060  
\070\060\060\132\060\143\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\034\060\032\006\003\125\004\012\023\023\101\155  
\145\162\151\143\141\040\117\156\154\151\156\145\040\111\156\143  
\056\061\066\060\064\006\003\125\004\003\023\055\101\155\145\162  
\151\143\141\040\117\156\154\151\156\145\040\122\157\157\164\040  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165  
\164\150\157\162\151\164\171\040\062\060\202\002\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017  
\000\060\202\002\012\002\202\002\001\000\314\101\105\035\351\075  
\115\020\366\214\261\101\311\340\136\313\015\267\277\107\163\323  
\360\125\115\335\306\014\372\261\146\005\152\315\170\264\334\002  
\333\116\201\363\327\247\174\161\274\165\143\240\135\343\007\014  
\110\354\045\304\003\040\364\377\016\073\022\377\233\215\341\306  
\325\033\264\155\042\343\261\333\177\041\144\257\206\274\127\042  
\052\326\107\201\127\104\202\126\123\275\206\024\001\013\374\177  
\164\244\132\256\361\272\021\265\233\130\132\200\264\067\170\011  
\063\174\062\107\003\134\304\245\203\110\364\127\126\156\201\066  
\047\030\117\354\233\050\302\324\264\327\174\014\076\014\053\337  
\312\004\327\306\216\352\130\116\250\244\245\030\034\154\105\230  
\243\101\321\055\322\307\155\215\031\361\255\171\267\201\077\275  
\006\202\047\055\020\130\005\265\170\005\271\057\333\014\153\220  
\220\176\024\131\070\273\224\044\023\345\321\235\024\337\323\202  
\115\106\360\200\071\122\062\017\343\204\262\172\103\362\136\336  
\137\077\035\335\343\262\033\240\241\052\043\003\156\056\001\025  
\207\134\246\165\165\307\227\141\276\336\206\334\324\110\333\275  
\052\277\112\125\332\350\175\120\373\264\200\027\270\224\277\001  
\075\352\332\272\174\340\130\147\027\271\130\340\210\206\106\147  
\154\235\020\107\130\062\320\065\174\171\052\220\242\132\020\021  
\043\065\255\057\314\344\112\133\247\310\047\362\203\336\136\273  
\136\167\347\350\245\156\143\302\015\135\141\320\214\322\154\132  
\041\016\312\050\243\316\052\351\225\307\110\317\226\157\035\222  
\045\310\306\306\301\301\014\005\254\046\304\322\165\322\341\052  
\147\300\075\133\245\232\353\317\173\032\250\235\024\105\345\017  
\240\232\145\336\057\050\275\316\157\224\146\203\110\051\330\352  
\145\214\257\223\331\144\237\125\127\046\277\157\313\067\061\231  
\243\140\273\034\255\211\064\062\142\270\103\041\006\162\014\241

\134\155\106\305\372\051\317\060\336\211\334\161\133\335\266\067  
\076\337\120\365\270\007\045\046\345\274\265\376\074\002\263\267  
\370\276\103\301\207\021\224\236\043\154\027\212\270\212\047\014  
\124\107\360\251\263\300\200\214\240\047\353\035\031\343\007\216  
\167\160\312\053\364\175\166\340\170\147\002\003\001\000\001\243  
\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\115  
\105\301\150\070\273\163\251\151\241\040\347\355\365\042\241\043  
\024\327\236\060\037\006\003\125\035\043\004\030\060\026\200\024  
\115\105\301\150\070\273\163\251\151\241\040\347\355\365\042\241  
\043\024\327\236\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001  
\005\005\000\003\202\002\001\000\147\153\006\271\137\105\073\052  
\113\063\263\346\033\153\131\116\042\314\271\267\244\045\311\247  
\304\360\124\226\013\144\363\261\130\117\136\121\374\262\227\173  
\047\145\302\345\312\347\015\014\045\173\142\343\372\237\264\207  
\267\105\106\257\203\245\227\110\214\245\275\361\026\053\233\166  
\054\172\065\140\154\021\200\227\314\251\222\122\346\053\346\151  
\355\251\370\066\055\054\167\277\141\110\321\143\013\271\133\122  
\355\030\260\103\102\042\246\261\167\256\336\151\305\315\307\034  
\241\261\245\034\020\373\030\276\032\160\335\301\222\113\276\051  
\132\235\077\065\276\345\175\121\370\125\340\045\165\043\207\036  
\134\334\272\235\260\254\263\151\333\027\203\311\367\336\014\274  
\010\334\221\236\250\320\327\025\067\163\245\065\270\374\176\305  
\104\100\006\303\353\370\042\200\134\107\316\002\343\021\237\104  
\377\375\232\062\314\175\144\121\016\353\127\046\166\072\343\036  
\042\074\302\246\066\335\031\357\247\374\022\363\046\300\131\061  
\205\114\234\330\317\337\244\314\314\051\223\377\224\155\166\134  
\023\010\227\362\355\245\013\115\335\350\311\150\016\146\323\000  
\016\063\022\133\274\225\345\062\220\250\263\306\154\203\255\167  
\356\213\176\176\261\251\253\323\341\361\266\300\261\352\210\300  
\347\323\220\351\050\222\224\173\150\173\227\052\012\147\055\205  
\002\070\020\344\003\141\324\332\045\066\307\010\130\055\241\247  
\121\257\060\012\111\365\246\151\207\007\055\104\106\166\216\052  
\345\232\073\327\030\242\374\234\070\020\314\306\073\322\265\027  
\072\157\375\256\045\275\365\162\131\144\261\164\052\070\137\030  
\114\337\317\161\004\132\066\324\277\057\231\234\350\331\272\261  
\225\346\002\113\041\241\133\325\301\117\217\256\151\155\123\333  
\001\223\265\134\036\030\335\144\132\312\030\050\076\143\004\021  
\375\034\215\000\017\270\067\337\147\212\235\146\251\002\152\221  
\377\023\312\057\135\203\274\207\223\154\334\044\121\026\004\045  
\146\372\263\331\302\272\051\276\232\110\070\202\231\364\277\073  
\112\061\031\371\277\216\041\063\024\312\117\124\137\373\316\373  
\217\161\177\375\136\031\240\017\113\221\270\304\124\274\006\260  
\105\217\046\221\242\216\376\251

END

#

```
Trust for Certificate "America Online Root Certification Authority 2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "America Online Root Certification Authority 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\205\265\377\147\233\014\171\226\037\310\156\104\042\000\106\023
\333\027\222\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\326\355\074\312\342\146\017\257\020\103\015\167\233\004\011\277
END
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\101\155\145\162\151\143
\141\040\117\156\154\151\156\145\040\111\156\143\056\061\066\060
\064\006\003\125\004\003\023\055\101\155\145\162\151\143\141\040
\117\156\154\151\156\145\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\040\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "Visa eCommerce Root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Visa eCommerce Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\015\060\013\006\003\125\004\012\023\004\126\111\123\101\061\057
\060\055\006\003\125\004\013\023\046\126\151\163\141\040\111\156
\164\145\162\156\141\164\151\157\156\141\154\040\123\145\162\166
\151\143\145\040\101\163\163\157\143\151\141\164\151\157\156\061
\034\060\032\006\003\125\004\003\023\023\126\151\163\141\040\145
\103\157\155\155\145\162\143\145\040\122\157\157\164
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\015\060\013\006\003\125\004\012\023\004\126\111\123\101\061\057  
\060\055\006\003\125\004\013\023\046\126\151\163\141\040\111\156  
\164\145\162\156\141\164\151\157\156\141\154\040\123\145\162\166  
\151\143\145\040\101\163\163\157\143\151\141\164\151\157\156\061  
\034\060\032\006\003\125\004\003\023\023\126\151\163\141\040\145  
\103\157\155\155\145\162\143\145\040\122\157\157\164

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\023\206\065\115\035\077\006\362\301\371\145\005\325\220  
\034\142

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\242\060\202\002\212\240\003\002\001\002\002\020\023  
\206\065\115\035\077\006\362\301\371\145\005\325\220\034\142\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\153  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\015\060  
\013\006\003\125\004\012\023\004\126\111\123\101\061\057\060\055  
\006\003\125\004\013\023\046\126\151\163\141\040\111\156\164\145  
\162\156\141\164\151\157\156\141\154\040\123\145\162\166\151\143  
\145\040\101\163\163\157\143\151\141\164\151\157\156\061\034\060  
\032\006\003\125\004\003\023\023\126\151\163\141\040\145\103\157  
\155\155\145\162\143\145\040\122\157\157\164\060\036\027\015\060  
\062\060\066\062\066\060\062\061\070\063\066\132\027\015\062\062  
\060\066\062\064\060\060\061\066\061\062\132\060\153\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\015\060\013\006\003  
\125\004\012\023\004\126\111\123\101\061\057\060\055\006\003\125  
\004\013\023\046\126\151\163\141\040\111\156\164\145\162\156\141  
\164\151\157\156\141\154\040\123\145\162\166\151\143\145\040\101  
\163\163\157\143\151\141\164\151\157\156\061\034\060\032\006\003  
\125\004\003\023\023\126\151\163\141\040\145\103\157\155\155\145  
\162\143\145\040\122\157\157\164\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\257\127\336\126\036\156\241  
\332\140\261\224\047\313\027\333\007\077\200\205\117\310\234\266  
\320\364\157\117\317\231\330\341\333\302\110\134\072\254\071\063  
\307\037\152\213\046\075\053\065\365\110\261\221\301\002\116\004  
\226\221\173\260\063\360\261\024\116\021\157\265\100\257\033\105  
\245\112\357\176\266\254\362\240\037\130\077\022\106\140\074\215  
\241\340\175\317\127\076\063\036\373\107\361\252\025\227\007\125  
\146\245\265\055\056\330\200\131\262\247\015\267\106\354\041\143  
\377\065\253\245\002\317\052\364\114\376\173\365\224\135\204\115  
\250\362\140\217\333\016\045\074\237\163\161\317\224\337\112\352  
\333\337\162\070\214\363\226\275\361\027\274\322\272\073\105\132

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\306\247\366\306\027\213\001\235\374\031\250\052\203\026\270\072
\110\376\116\076\240\253\006\031\351\123\363\200\023\007\355\055
\277\077\012\074\125\040\071\054\054\000\151\164\225\112\274\040
\262\251\171\345\030\211\221\250\334\034\115\357\273\176\067\013
\135\376\071\245\210\122\214\000\154\354\030\174\101\275\366\213
\165\167\272\140\235\204\347\376\055\002\003\001\000\001\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\025\070
\203\017\077\054\077\160\063\036\315\106\376\007\214\040\340\327
\303\267\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\003\202\001\001\000\137\361\101\175\174\134\010\271\053\340
\325\222\107\372\147\134\245\023\303\003\041\233\053\114\211\106
\317\131\115\311\376\245\100\266\143\315\335\161\050\225\147\021
\314\044\254\323\104\154\161\256\001\040\153\003\242\217\030\267
\051\072\175\345\026\140\123\170\074\300\257\025\203\367\217\122
\063\044\275\144\223\227\356\213\367\333\030\250\155\161\263\367
\054\027\320\164\045\151\367\376\153\074\224\276\115\113\101\214
\116\342\163\320\343\220\042\163\103\315\363\357\352\163\316\105
\212\260\246\111\377\114\175\235\161\210\304\166\035\220\133\035
\356\375\314\367\356\375\140\245\261\172\026\161\321\026\320\174
\022\074\154\151\227\333\256\137\071\232\160\057\005\074\031\106
\004\231\040\066\320\140\156\141\006\273\026\102\214\160\367\060
\373\340\333\146\243\000\001\275\346\054\332\221\137\240\106\213
\115\152\234\075\075\335\005\106\376\166\277\240\012\074\344\000
\346\047\267\377\204\055\336\272\042\047\226\020\161\353\042\355
\337\337\063\234\317\343\255\256\216\324\216\346\117\121\257\026
\222\340\134\366\007\017
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END

#

Trust for Certificate "Visa eCommerce Root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Visa eCommerce Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\160\027\233\206\214\000\244\372\140\221\122\042\077\237\076\062
\275\340\005\142
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\374\021\270\330\010\223\060\000\155\043\371\176\353\122\036\002
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END

CKA\_ISSUER

MULTILINE\_OCTAL

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\060\153\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\015\060\013\006\003\125\004\012\023\004\126\111\123\101\061\057
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\060\055\006\003\125\004\013\023\046\126\151\163\141\040\111\156
\164\145\162\156\141\164\151\157\156\141\154\040\123\145\162\166
\151\143\145\040\101\163\163\157\143\151\141\164\151\157\156\061
\034\060\032\006\003\125\004\003\023\023\126\151\163\141\040\145
\103\157\155\155\145\162\143\145\040\122\157\157\164
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\020\023\206\065\115\035\077\006\362\301\371\145\005\325\220
\034\142
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TC TrustCenter, Germany, Class 2 CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TC TrustCenter, Germany, Class 2 CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\201\274\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\020\060\016\006\003\125\004\010\023\007\110\141\155\142\165
\162\147\061\020\060\016\006\003\125\004\007\023\007\110\141\155
\142\165\162\147\061\072\060\070\006\003\125\004\012\023\061\124
\103\040\124\162\165\163\164\103\145\156\164\145\162\040\146\157
\162\040\123\145\143\165\162\151\164\171\040\151\156\040\104\141
\164\141\040\116\145\164\167\157\162\153\163\040\107\155\142\110
\061\042\060\040\006\003\125\004\013\023\031\124\103\040\124\162
\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163\040
\062\040\103\101\061\051\060\047\006\011\052\206\110\206\367\015
\001\011\001\026\032\143\145\162\164\151\146\151\143\141\164\145
\100\164\162\165\163\164\143\145\156\164\145\162\056\144\145
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\060\201\274\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\020\060\016\006\003\125\004\010\023\007\110\141\155\142\165
\162\147\061\020\060\016\006\003\125\004\007\023\007\110\141\155
\142\165\162\147\061\072\060\070\006\003\125\004\012\023\061\124
\103\040\124\162\165\163\164\103\145\156\164\145\162\040\146\157
\162\040\123\145\143\165\162\151\164\171\040\151\156\040\104\141
```

\164\141\040\116\145\164\167\157\162\153\163\040\107\155\142\110  
\061\042\060\040\006\003\125\004\013\023\031\124\103\040\124\162  
\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163\040  
\062\040\103\101\061\051\060\047\006\011\052\206\110\206\367\015  
\001\011\001\026\032\143\145\162\164\151\146\151\143\141\164\145  
\100\164\162\165\163\164\143\145\156\164\145\162\056\144\145

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\002\003\352

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\134\060\202\002\305\240\003\002\001\002\002\002\003  
\352\060\015\006\011\052\206\110\206\367\015\001\001\004\005\000  
\060\201\274\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\020\060\016\006\003\125\004\010\023\007\110\141\155\142\165  
\162\147\061\020\060\016\006\003\125\004\007\023\007\110\141\155  
\142\165\162\147\061\072\060\070\006\003\125\004\012\023\061\124  
\103\040\124\162\165\163\164\103\145\156\164\145\162\040\146\157  
\162\040\123\145\143\165\162\151\164\171\040\151\156\040\104\141  
\164\141\040\116\145\164\167\157\162\153\163\040\107\155\142\110  
\061\042\060\040\006\003\125\004\013\023\031\124\103\040\124\162  
\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163\040  
\062\040\103\101\061\051\060\047\006\011\052\206\110\206\367\015  
\001\011\001\026\032\143\145\162\164\151\146\151\143\141\164\145  
\100\164\162\165\163\164\143\145\156\164\145\162\056\144\145\060  
\036\027\015\071\070\060\063\060\071\061\061\065\071\065\071\132  
\027\015\061\061\060\061\060\061\061\061\065\071\065\071\132\060  
\201\274\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\020\060\016\006\003\125\004\010\023\007\110\141\155\142\165\162  
\147\061\020\060\016\006\003\125\004\007\023\007\110\141\155\142  
\165\162\147\061\072\060\070\006\003\125\004\012\023\061\124\103  
\040\124\162\165\163\164\103\145\156\164\145\162\040\146\157\162  
\040\123\145\143\165\162\151\164\171\040\151\156\040\104\141\164  
\141\040\116\145\164\167\157\162\153\163\040\107\155\142\110\061  
\042\060\040\006\003\125\004\013\023\031\124\103\040\124\162\165  
\163\164\103\145\156\164\145\162\040\103\154\141\163\163\040\062  
\040\103\101\061\051\060\047\006\011\052\206\110\206\367\015\001  
\011\001\026\032\143\145\162\164\151\146\151\143\141\164\145\100  
\164\162\165\163\164\143\145\156\164\145\162\056\144\145\060\201  
\237\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\201\215\000\060\201\211\002\201\201\000\332\070\350\355\062  
\000\051\161\203\001\015\277\214\001\334\332\306\255\071\244\251  
\212\057\325\213\134\150\137\120\306\142\365\146\275\312\221\042  
\354\252\035\121\327\075\263\121\262\203\116\135\313\111\260\360  
\114\125\345\153\055\307\205\013\060\034\222\116\202\324\312\002  
\355\367\157\276\334\340\343\024\270\005\123\362\232\364\126\213  
\132\236\205\223\321\264\202\126\256\115\273\250\113\127\026\274  
\376\370\130\236\370\051\215\260\173\315\170\311\117\254\213\147

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\014\361\234\373\374\127\233\127\134\117\015\002\003\001\000\001
\243\153\060\151\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\206\060\063\006\011\140\206\110\001\206\370\102
\001\010\004\046\026\044\150\164\164\160\072\057\057\167\167\167
\056\164\162\165\163\164\143\145\156\164\145\162\056\144\145\057
\147\165\151\144\145\154\151\156\145\163\060\021\006\011\140\206
\110\001\206\370\102\001\001\004\004\003\002\000\007\060\015\006
\011\052\206\110\206\367\015\001\001\004\005\000\003\201\201\000
\204\122\373\050\337\377\037\165\001\274\001\276\004\126\227\152
\164\102\044\061\203\371\106\261\006\212\211\317\226\054\063\277
\214\265\137\172\162\241\205\006\316\206\370\005\216\350\371\045
\312\332\203\214\006\254\353\066\155\205\221\064\004\066\364\102
\360\370\171\056\012\110\134\253\314\121\117\170\166\240\331\254
\031\275\052\321\151\004\050\221\312\066\020\047\200\127\133\322
\134\365\302\133\253\144\201\143\164\121\364\227\277\315\022\050
\367\115\146\177\247\360\034\001\046\170\262\146\107\160\121\144
END
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#

```
Trust for Certificate "TC TrustCenter, Germany, Class 2 CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TC TrustCenter, Germany, Class 2 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\203\216\060\367\177\335\024\252\070\136\321\105\000\234\016\042
\066\111\117\252
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\270\026\063\114\114\114\362\330\323\115\006\264\246\133\100\003
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\274\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\020\060\016\006\003\125\004\010\023\007\110\141\155\142\165
\162\147\061\020\060\016\006\003\125\004\007\023\007\110\141\155
\142\165\162\147\061\072\060\070\006\003\125\004\012\023\061\124
\103\040\124\162\165\163\164\103\145\156\164\145\162\040\146\157
\162\040\123\145\143\165\162\151\164\171\040\151\156\040\104\141
\164\141\040\116\145\164\167\157\162\153\163\040\107\155\142\110
\061\042\060\040\006\003\125\004\013\023\031\124\103\040\124\162
\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163\040
\062\040\103\101\061\051\060\047\006\011\052\206\110\206\367\015
\001\011\001\026\032\143\145\162\164\151\146\151\143\141\164\145
\100\164\162\165\163\164\143\145\156\164\145\162\056\144\145
END
CKA_SERIAL_NUMBER
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MULTILINE_OCTAL
\002\002\003\352
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate
"TC TrustCenter, Germany, Class 3 CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TC TrustCenter, Germany, Class 3 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\274\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\020\060\016\006\003\125\004\010\023\007\110\141\155\142\165
\162\147\061\020\060\016\006\003\125\004\007\023\007\110\141\155
\142\165\162\147\061\072\060\070\006\003\125\004\012\023\061\124
\103\040\124\162\165\163\164\103\145\156\164\145\162\040\146\157
\162\040\123\145\143\165\162\151\164\171\040\151\156\040\104\141
\164\141\040\116\145\164\167\157\162\153\163\040\107\155\142\110
\061\042\060\040\006\003\125\004\013\023\031\124\103\040\124\162
\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163\040
\063\040\103\101\061\051\060\047\006\011\052\206\110\206\367\015
\001\011\001\026\032\143\145\162\164\151\146\151\143\141\164\145
\100\164\162\165\163\164\143\145\156\164\145\162\056\144\145
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\274\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\020\060\016\006\003\125\004\010\023\007\110\141\155\142\165
\162\147\061\020\060\016\006\003\125\004\007\023\007\110\141\155
\142\165\162\147\061\072\060\070\006\003\125\004\012\023\061\124
\103\040\124\162\165\163\164\103\145\156\164\145\162\040\146\157
\162\040\123\145\143\165\162\151\164\171\040\151\156\040\104\141
\164\141\040\116\145\164\167\157\162\153\163\040\107\155\142\110
\061\042\060\040\006\003\125\004\013\023\031\124\103\040\124\162
\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163\040
\063\040\103\101\061\051\060\047\006\011\052\206\110\206\367\015
\001\011\001\026\032\143\145\162\164\151\146\151\143\141\164\145
\100\164\162\165\163\164\143\145\156\164\145\162\056\144\145
END
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CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\002\003\353

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\134\060\202\002\305\240\003\002\001\002\002\002\003  
\353\060\015\006\011\052\206\110\206\367\015\001\001\004\005\000  
\060\201\274\061\013\060\011\006\003\125\004\006\023\002\104\105  
\061\020\060\016\006\003\125\004\010\023\007\110\141\155\142\165  
\162\147\061\020\060\016\006\003\125\004\007\023\007\110\141\155  
\142\165\162\147\061\072\060\070\006\003\125\004\012\023\061\124  
\103\040\124\162\165\163\164\103\145\156\164\145\162\040\146\157  
\162\040\123\145\143\165\162\151\164\171\040\151\156\040\104\141  
\164\141\040\116\145\164\167\157\162\153\163\040\107\155\142\110  
\061\042\060\040\006\003\125\004\013\023\031\124\103\040\124\162  
\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163\040  
\063\040\103\101\061\051\060\047\006\011\052\206\110\206\367\015  
\001\011\001\026\032\143\145\162\164\151\146\151\143\141\164\145  
\100\164\162\165\163\164\143\145\156\164\145\162\056\144\145\060  
\036\027\015\071\070\060\063\060\071\061\061\065\071\065\071\132  
\027\015\061\061\060\061\060\061\061\061\065\071\065\071\132\060  
\201\274\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\020\060\016\006\003\125\004\010\023\007\110\141\155\142\165\162  
\147\061\020\060\016\006\003\125\004\007\023\007\110\141\155\142  
\165\162\147\061\072\060\070\006\003\125\004\012\023\061\124\103  
\040\124\162\165\163\164\103\145\156\164\145\162\040\146\157\162  
\040\123\145\143\165\162\151\164\171\040\151\156\040\104\141\164  
\141\040\116\145\164\167\157\162\153\163\040\107\155\142\110\061  
\042\060\040\006\003\125\004\013\023\031\124\103\040\124\162\165  
\163\164\103\145\156\164\145\162\040\103\154\141\163\163\040\063  
\040\103\101\061\051\060\047\006\011\052\206\110\206\367\015\001  
\011\001\026\032\143\145\162\164\151\146\151\143\141\164\145\100  
\164\162\165\163\164\143\145\156\164\145\162\056\144\145\060\201  
\237\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000  
\003\201\215\000\060\201\211\002\201\201\000\266\264\301\065\005  
\056\015\215\354\240\100\152\034\016\047\246\120\222\153\120\033  
\007\336\056\347\166\314\340\332\374\204\250\136\214\143\152\053  
\115\331\116\002\166\021\301\013\362\215\171\312\000\266\361\260  
\016\327\373\244\027\075\257\253\151\172\226\047\277\257\063\241  
\232\052\131\252\304\265\067\010\362\022\245\061\266\103\365\062  
\226\161\050\050\253\215\050\206\337\273\356\343\014\175\060\326  
\303\122\253\217\135\047\234\153\300\243\347\005\153\127\111\104  
\263\156\352\144\317\322\216\172\120\167\167\002\003\001\000\001  
\243\153\060\151\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\206\060\063\006\011\140\206\110\001\206\370\102  
\001\010\004\046\026\044\150\164\164\160\072\057\057\167\167\167  
\056\164\162\165\163\164\143\145\156\164\145\162\056\144\145\057  
\147\165\151\144\145\154\151\156\145\163\060\021\006\011\140\206

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\110\001\206\370\102\001\001\004\004\003\002\000\007\060\015\006
\011\052\206\110\206\367\015\001\001\004\005\000\003\201\201\000
\026\075\306\315\301\273\205\161\205\106\237\076\040\217\121\050
\231\354\055\105\041\143\043\133\004\273\114\220\270\210\222\004
\115\275\175\001\243\077\366\354\316\361\336\376\175\345\341\076
\273\306\253\136\013\335\075\226\304\313\251\324\371\046\346\006
\116\236\014\245\172\272\156\303\174\202\031\321\307\261\261\303
\333\015\216\233\100\174\067\013\361\135\350\375\037\220\210\245
\016\116\067\144\041\250\116\215\264\237\361\336\110\255\325\126
\030\122\051\213\107\064\022\011\324\273\222\065\357\017\333\064
END
```

#

```
Trust for Certificate "TC TrustCenter, Germany, Class 3 CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TC TrustCenter, Germany, Class 3 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\237\307\226\350\370\122\117\206\072\341\111\155\070\022\102\020
\137\033\170\365
END
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```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\137\224\112\163\042\270\367\321\061\354\131\071\367\216\376\156
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\274\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\020\060\016\006\003\125\004\010\023\007\110\141\155\142\165
\162\147\061\020\060\016\006\003\125\004\007\023\007\110\141\155
\142\165\162\147\061\072\060\070\006\003\125\004\012\023\061\124
\103\040\124\162\165\163\164\103\145\156\164\145\162\040\146\157
\162\040\123\145\143\165\162\151\164\171\040\151\156\040\104\141
\164\141\040\116\145\164\167\157\162\153\163\040\107\155\142\110
\061\042\060\040\006\003\125\004\013\023\031\124\103\040\124\162
\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163\040
\063\040\103\101\061\051\060\047\006\011\052\206\110\206\367\015
\001\011\001\026\032\143\145\162\164\151\146\151\143\141\164\145
\100\164\162\165\163\164\143\145\156\164\145\162\056\144\145
END
```

```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\002\003\353
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST
```

```
CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_VALUE
MULTILINE_OCTAL
\060\202\003\014\060\202\001\364\240\003\002\001\002\002\003\001
\000\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\036\027\015\060\062\060\066\061\061\061\060\064\066\063
\071\132\027\015\062\067\060\066\061\061\061\060\064\066\063\071
\132\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\316\261\301\056\323\117\174\315\045\316\030\076\117\304
\214\157\200\152\163\310\133\121\370\233\322\334\273\000\134\261
\240\374\165\003\356\201\360\210\356\043\122\351\346\025\063\215
\254\055\011\305\166\371\053\071\200\211\344\227\113\220\245\250
```

\170\370\163\103\173\244\141\260\330\130\314\341\154\146\176\234  
\363\011\136\125\143\204\325\250\357\363\261\056\060\150\263\304  
\074\330\254\156\215\231\132\220\116\064\334\066\232\217\201\210  
\120\267\155\226\102\011\363\327\225\203\015\101\113\260\152\153  
\370\374\017\176\142\237\147\304\355\046\137\020\046\017\010\117  
\360\244\127\050\316\217\270\355\105\366\156\356\045\135\252\156  
\071\276\344\223\057\331\107\240\162\353\372\246\133\257\312\123  
\077\342\016\306\226\126\021\156\367\351\146\251\046\330\177\225  
\123\355\012\205\210\272\117\051\245\102\214\136\266\374\205\040  
\000\252\150\013\241\032\205\001\234\304\106\143\202\210\266\042  
\261\356\376\252\106\131\176\317\065\054\325\266\332\135\367\110  
\063\024\124\266\353\331\157\316\315\210\326\253\033\332\226\073  
\035\131\002\003\001\000\001\243\023\060\021\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\270\215\316\357\347\024\272\317\356\260\104\222\154\264\071\076  
\242\204\156\255\270\041\167\322\324\167\202\207\346\040\101\201  
\356\342\370\021\267\143\321\027\067\276\031\166\044\034\004\032  
\114\353\075\252\147\157\055\324\315\376\145\061\160\305\033\246  
\002\012\272\140\173\155\130\302\232\111\376\143\062\013\153\343  
\072\300\254\253\073\260\350\323\011\121\214\020\203\306\064\340  
\305\053\340\032\266\140\024\047\154\062\167\214\274\262\162\230  
\317\315\314\077\271\310\044\102\024\326\127\374\346\046\103\251  
\035\345\200\220\316\003\124\050\076\367\077\323\370\115\355\152  
\012\072\223\023\233\073\024\043\023\143\234\077\321\207\047\171  
\345\114\121\343\001\255\205\135\032\073\261\325\163\020\244\323  
\362\274\156\144\365\132\126\220\250\307\016\114\164\017\056\161  
\073\367\310\107\364\151\157\025\362\021\136\203\036\234\174\122  
\256\375\002\332\022\250\131\147\030\333\274\160\335\233\261\151  
\355\200\316\211\100\110\152\016\065\312\051\146\025\041\224\054  
\350\140\052\233\205\112\100\363\153\212\044\354\006\026\054\163  
END

#

Trust for Certificate "Certum Root CA"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "Certum Root CA"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\142\122\334\100\367\021\103\242\057\336\236\367\064\216\006\102  
\121\261\201\030  
END  
CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
\054\217\237\146\035\030\220\261\107\046\235\216\206\202\214\251  
END  
CKA\_ISSUER MULTILINE\_OCTAL

```

\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Comodo AAA Services root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\062\060\202\003\032\240\003\002\001\002\002\001\001  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103  
\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003\125  
\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151\143  
\141\164\145\040\123\145\162\166\151\143\145\163\060\036\027\015  
\060\064\060\061\060\061\060\060\060\060\060\132\027\015\062  
\070\061\062\063\061\062\063\065\071\065\071\132\060\173\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006  
\003\125\004\010\014\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\014\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\014\021\103\157\155\157\144\157\040\103\101\040\114  
\151\155\151\164\145\144\061\041\060\037\006\003\125\004\003\014  
\030\101\101\101\040\103\145\162\164\151\146\151\143\141\164\145  
\040\123\145\162\166\151\143\145\163\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\276\100\235\364\156\341  
\352\166\207\034\115\105\104\216\276\106\310\203\006\235\301\052  
\376\030\037\216\344\002\372\363\253\135\120\212\026\061\013\232  
\006\320\305\160\042\315\111\055\124\143\314\266\156\150\106\013  
\123\352\313\114\044\300\274\162\116\352\361\025\256\364\124\232  
\022\012\303\172\262\063\140\342\332\211\125\363\042\130\363\336  
\334\317\357\203\206\242\214\224\117\237\150\362\230\220\106\204  
\047\307\166\277\343\314\065\054\213\136\007\144\145\202\300\110  
\260\250\221\371\141\237\166\040\120\250\221\307\146\265\353\170  
\142\003\126\360\212\032\023\352\061\243\036\240\231\375\070\366  
\366\047\062\130\157\007\365\153\270\373\024\053\257\267\252\314  
\326\143\137\163\214\332\005\231\250\070\250\313\027\170\066\121  
\254\351\236\364\170\072\215\317\017\331\102\342\230\014\253\057  
\237\016\001\336\357\237\231\111\361\055\337\254\164\115\033\230  
\265\107\305\345\051\321\371\220\030\307\142\234\276\203\307\046  
\173\076\212\045\307\300\335\235\346\065\150\020\040\235\217\330  
\336\322\303\204\234\015\136\350\057\311\002\003\001\000\001\243  
\201\300\060\201\275\060\035\006\003\125\035\016\004\026\004\024  
\240\021\012\043\076\226\361\007\354\342\257\051\357\202\245\177  
\320\060\244\264\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\173\006\003\125\035\037\004\164\060\162  
\060\070\240\066\240\064\206\062\150\164\164\160\072\057\057\143  
\162\154\056\143\157\155\157\144\157\143\141\056\143\157\155\057  
\101\101\101\103\145\162\164\151\146\151\143\141\164\145\123\145  
\162\166\151\143\145\163\056\143\162\154\060\066\240\064\240\062

```
\206\060\150\164\164\160\072\057\057\143\162\154\056\143\157\155
\157\144\157\056\156\145\164\057\101\101\101\103\145\162\164\151
\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056\143
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\003\202\001\001\000\010\126\374\002\360\233\350\377\244\372
\326\173\306\104\200\316\117\304\305\366\000\130\314\246\266\274
\024\111\150\004\166\350\346\356\135\354\002\017\140\326\215\120
\030\117\046\116\001\343\346\260\245\356\277\274\164\124\101\277
\375\374\022\270\307\117\132\364\211\140\005\177\140\267\005\112
\363\366\361\302\277\304\271\164\206\266\055\175\153\314\322\363
\106\335\057\306\340\152\303\303\064\003\054\175\226\335\132\302
\016\247\012\231\301\005\213\253\014\057\363\134\072\317\154\067
\125\011\207\336\123\100\154\130\357\374\266\253\145\156\004\366
\033\334\074\340\132\025\306\236\331\361\131\110\060\041\145\003
\154\354\351\041\163\354\233\003\241\340\067\255\240\025\030\217
\372\272\002\316\247\054\251\020\023\054\324\345\010\046\253\042
\227\140\370\220\136\164\324\242\232\123\275\362\251\150\340\242
\156\302\327\154\261\243\017\236\277\353\150\347\126\362\256\362
\343\053\070\072\011\201\265\153\205\327\276\055\355\077\032\267
\262\143\342\365\142\054\202\324\152\000\101\120\361\071\203\237
\225\351\066\226\230\156
```

END

#

Trust for Certificate "Comodo AAA Services root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Comodo AAA Services root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\321\353\043\244\155\027\326\217\331\045\144\302\361\361\140\027
\144\330\343\111
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\111\171\004\260\353\207\031\254\107\260\274\021\121\233\164\320
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
```

END

CKA\_SERIAL\_NUMBER



```
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "Comodo Secure Services root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo Secure Services root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\176\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\044\060\042\006\003
\125\004\003\014\033\123\145\143\165\162\145\040\103\145\162\164
\151\146\151\143\141\164\145\040\123\145\162\166\151\143\145\163
END
```

```
CKA_ID
UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\044\060\042\006\003
\125\004\003\014\033\123\145\143\165\162\145\040\103\145\162\164
\151\146\151\143\141\164\145\040\123\145\162\166\151\143\145\163
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\001
```

```
END
```

```
CKA_VALUE MULTILINE_OCTAL
```

```
\060\202\004\077\060\202\003\047\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\176\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
```

\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103  
\101\040\114\151\155\151\164\145\144\061\044\060\042\006\003\125  
\004\003\014\033\123\145\143\165\162\145\040\103\145\162\164\151  
\146\151\143\141\164\145\040\123\145\162\166\151\143\145\163\060  
\036\027\015\060\064\060\061\060\061\060\060\060\060\060\060\060\132  
\027\015\062\070\061\062\063\061\062\063\065\071\065\071\132\060  
\176\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103  
\101\040\114\151\155\151\164\145\144\061\044\060\042\006\003\125  
\004\003\014\033\123\145\143\165\162\145\040\103\145\162\164\151  
\146\151\143\141\164\145\040\123\145\162\166\151\143\145\163\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\300\161\063\202\212\320\160\353\163\207\202\100\325\035\344\313  
\311\016\102\220\371\336\064\271\241\272\021\364\045\205\363\314  
\162\155\362\173\227\153\263\007\361\167\044\221\137\045\217\366  
\164\075\344\200\302\370\074\015\363\277\100\352\367\310\122\321  
\162\157\357\310\253\101\270\156\056\027\052\225\151\014\315\322  
\036\224\173\055\224\035\252\165\327\263\230\313\254\274\144\123  
\100\274\217\254\254\066\313\134\255\273\335\340\224\027\354\321  
\134\320\277\357\245\225\311\220\305\260\254\373\033\103\337\172  
\010\135\267\270\362\100\033\053\047\236\120\316\136\145\202\210  
\214\136\323\116\014\172\352\010\221\266\066\252\053\102\373\352  
\302\243\071\345\333\046\070\255\213\012\356\031\143\307\034\044  
\337\003\170\332\346\352\301\107\032\013\013\106\011\335\002\374  
\336\313\207\137\327\060\143\150\241\256\334\062\241\272\276\376  
\104\253\150\266\245\027\025\375\275\325\247\247\232\344\104\063  
\351\210\216\374\355\121\353\223\161\116\255\001\347\104\216\253  
\055\313\250\376\001\111\110\360\300\335\307\150\330\222\376\075  
\002\003\001\000\001\243\201\307\060\201\304\060\035\006\003\125  
\035\016\004\026\004\024\074\330\223\210\302\300\202\011\314\001  
\231\006\223\040\351\236\160\011\143\117\060\016\006\003\125\035  
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\201\201\006\003  
\125\035\037\004\172\060\170\060\073\240\071\240\067\206\065\150  
\164\164\160\072\057\057\143\162\154\056\143\157\155\157\144\157  
\143\141\056\143\157\155\057\123\145\143\165\162\145\103\145\162  
\164\151\146\151\143\141\164\145\123\145\162\166\151\143\145\163  
\056\143\162\154\060\071\240\067\240\065\206\063\150\164\164\160  
\072\057\057\143\162\154\056\143\157\155\157\144\157\056\156\145  
\164\057\123\145\143\165\162\145\103\145\162\164\151\146\151\143  
\141\164\145\123\145\162\166\151\143\145\163\056\143\162\154\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\207\001\155\043\035\176\133\027\175\301\141\062\317

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\217\347\363\212\224\131\146\340\236\050\250\136\323\267\364\064
\346\252\071\262\227\026\305\202\157\062\244\351\214\347\257\375
\357\302\350\271\113\252\243\364\346\332\215\145\041\373\272\200
\353\046\050\205\032\376\071\214\336\133\004\004\264\124\371\243
\147\236\101\372\011\122\314\005\110\250\311\077\041\004\036\316
\110\153\374\205\350\302\173\257\177\267\314\370\137\072\375\065
\306\015\357\227\334\114\253\021\341\153\313\061\321\154\373\110
\200\253\334\234\067\270\041\024\113\015\161\075\354\203\063\156
\321\156\062\026\354\230\307\026\213\131\246\064\253\005\127\055
\223\367\252\023\313\322\023\342\267\056\073\315\153\120\027\011
\150\076\265\046\127\356\266\340\266\335\271\051\200\171\175\217
\243\360\244\050\244\025\304\205\364\047\324\153\277\345\134\344
\145\002\166\124\264\343\067\146\044\323\031\141\310\122\020\345
\213\067\232\271\251\371\035\277\352\231\222\141\226\377\001\315
\241\137\015\274\161\274\016\254\013\035\107\105\035\301\354\174
\354\375\051
```

END

#

Trust for Certificate "Comodo Secure Services root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Comodo Secure Services root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\112\145\325\364\035\357\071\270\270\220\112\112\323\144\201\063
\317\307\241\321
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\323\331\275\256\237\254\147\044\263\310\033\122\341\271\251\275
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\176\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\044\060\042\006\003
\125\004\003\014\033\123\145\143\165\162\145\040\103\145\162\164
\151\146\151\143\141\164\145\040\123\145\162\166\151\143\145\163
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\001\001
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Comodo Trusted Services root"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Comodo Trusted Services root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\107\102\061  
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145  
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016  
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032  
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040  
\103\101\040\114\151\155\151\164\145\144\061\045\060\043\006\003  
\125\004\003\014\034\124\162\165\163\164\145\144\040\103\145\162  
\164\151\146\151\143\141\164\145\040\123\145\162\166\151\143\145  
\163

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\107\102\061  
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145  
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016  
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032  
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040  
\103\101\040\114\151\155\151\164\145\144\061\045\060\043\006\003  
\125\004\003\014\034\124\162\165\163\164\145\144\040\103\145\162  
\164\151\146\151\143\141\164\145\040\123\145\162\166\151\143\145  
\163

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE

MULTILINE\_OCTAL

\060\202\004\103\060\202\003\053\240\003\002\001\002\002\001\001  
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\177\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162  
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103

\101\040\114\151\155\151\164\145\144\061\045\060\043\006\003\125  
\004\003\014\034\124\162\165\163\164\145\144\040\103\145\162\164  
\151\146\151\143\141\164\145\040\123\145\162\166\151\143\145\163  
\060\036\027\015\060\064\060\061\060\061\060\060\060\060\060  
\132\027\015\062\070\061\062\063\061\062\063\065\071\065\071\132  
\060\177\061\013\060\011\006\003\125\004\006\023\002\107\102\061  
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145  
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016  
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032  
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040  
\103\101\040\114\151\155\151\164\145\144\061\045\060\043\006\003  
\125\004\003\014\034\124\162\165\163\164\145\144\040\103\145\162  
\164\151\146\151\143\141\164\145\040\123\145\162\166\151\143\145  
\163\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\337\161\157\066\130\123\132\362\066\124\127\200\304\164  
\010\040\355\030\177\052\035\346\065\232\036\045\254\234\345\226  
\176\162\122\240\025\102\333\131\335\144\172\032\320\270\173\335  
\071\025\274\125\110\304\355\072\000\352\061\021\272\362\161\164  
\032\147\270\317\063\314\250\061\257\243\343\327\177\277\063\055  
\114\152\074\354\213\303\222\322\123\167\044\164\234\007\156\160  
\374\275\013\133\166\272\137\362\377\327\067\113\112\140\170\367  
\360\372\312\160\264\352\131\252\243\316\110\057\251\303\262\013  
\176\027\162\026\014\246\007\014\033\070\317\311\142\267\077\240  
\223\245\207\101\362\267\160\100\167\330\276\024\174\343\250\300  
\172\216\351\143\152\321\017\232\306\322\364\213\072\024\004\126  
\324\355\270\314\156\365\373\342\054\130\275\177\117\153\053\367  
\140\044\130\044\316\046\357\064\221\072\325\343\201\320\262\360  
\004\002\327\133\267\076\222\254\153\022\212\371\344\005\260\073  
\221\111\134\262\353\123\352\370\237\107\206\356\277\225\300\300  
\006\237\322\133\136\021\033\364\307\004\065\051\322\125\134\344  
\355\353\002\003\001\000\001\243\201\311\060\201\306\060\035\006  
\003\125\035\016\004\026\004\024\305\173\130\275\355\332\045\151  
\322\367\131\026\250\263\062\300\173\047\133\364\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\203  
\006\003\125\035\037\004\174\060\172\060\074\240\072\240\070\206  
\066\150\164\164\160\072\057\057\143\162\154\056\143\157\155\157  
\144\157\143\141\056\143\157\155\057\124\162\165\163\164\145\144  
\103\145\162\164\151\146\151\143\141\164\145\123\145\162\166\151  
\143\145\163\056\143\162\154\060\072\240\070\240\066\206\064\150  
\164\164\160\072\057\057\143\162\154\056\143\157\155\157\144\157  
\056\156\145\164\057\124\162\165\163\164\145\144\103\145\162\164  
\151\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056  
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\003\202\001\001\000\310\223\201\073\211\264\257\270\204  
\022\114\215\322\360\333\160\272\127\206\025\064\020\271\057\177  
\036\260\250\211\140\241\212\302\167\014\120\112\233\000\213\330

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\213\364\101\342\320\203\212\112\034\024\006\260\243\150\005\160
\061\060\247\123\233\016\351\112\240\130\151\147\016\256\235\366
\245\054\101\277\074\006\153\344\131\314\155\020\361\226\157\037
\337\364\004\002\244\237\105\076\310\330\372\066\106\104\120\077
\202\227\221\037\050\333\030\021\214\052\344\145\203\127\022\022
\214\027\077\224\066\376\135\260\300\004\167\023\270\364\025\325
\077\070\314\224\072\125\320\254\230\365\272\000\137\340\206\031
\201\170\057\050\300\176\323\314\102\012\365\256\120\240\321\076
\306\241\161\354\077\240\040\214\146\072\211\264\216\324\330\261
\115\045\107\356\057\210\310\265\341\005\105\300\276\024\161\336
\172\375\216\173\175\115\010\226\245\022\163\360\055\312\067\047
\164\022\047\114\313\266\227\351\331\256\010\155\132\071\100\335
\005\107\165\152\132\041\263\243\030\317\116\367\056\127\267\230
\160\136\310\304\170\260\142
```

END

#

Trust for Certificate "Comodo Trusted Services root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Comodo Trusted Services root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\341\237\343\016\213\204\140\236\200\233\027\015\162\250\305\272
\156\024\011\275
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\221\033\077\156\315\236\253\356\007\376\037\161\322\263\141\047
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\177\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\045\060\043\006\003
\125\004\003\014\034\124\162\165\163\164\145\144\040\103\145\162
\164\151\146\151\143\141\164\145\040\123\145\162\166\151\143\145
\163
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\001\001
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "IPS Chained CAs root"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IPS Chained CAs root"

CKA\_CERTIFICATE\_TYPE

CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\202\001\034\061\013\060\011\006\003\125\004\006\023\002\105  
\123\061\022\060\020\006\003\125\004\010\023\011\102\141\162\143  
\145\154\157\156\141\061\022\060\020\006\003\125\004\007\023\011  
\102\141\162\143\145\154\157\156\141\061\056\060\054\006\003\125  
\004\012\023\045\111\120\123\040\111\156\164\145\162\156\145\164  
\040\160\165\142\154\151\163\150\151\156\147\040\123\145\162\166  
\151\143\145\163\040\163\056\154\056\061\053\060\051\006\003\125  
\004\012\024\042\151\160\163\100\155\141\151\154\056\151\160\163  
\056\145\163\040\103\056\111\056\106\056\040\040\102\055\066\060  
\071\062\071\064\065\062\061\063\060\061\006\003\125\004\013\023  
\052\111\120\123\040\103\101\040\103\150\141\151\156\145\144\040  
\103\101\163\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\063\060\061\006  
\003\125\004\003\023\052\111\120\123\040\103\101\040\103\150\141  
\151\156\145\144\040\103\101\163\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\061\036\060\034\006\011\052\206\110\206\367\015\001\011\001\026  
\017\151\160\163\100\155\141\151\154\056\151\160\163\056\145\163  
END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\202\001\034\061\013\060\011\006\003\125\004\006\023\002\105  
\123\061\022\060\020\006\003\125\004\010\023\011\102\141\162\143  
\145\154\157\156\141\061\022\060\020\006\003\125\004\007\023\011  
\102\141\162\143\145\154\157\156\141\061\056\060\054\006\003\125  
\004\012\023\045\111\120\123\040\111\156\164\145\162\156\145\164  
\040\160\165\142\154\151\163\150\151\156\147\040\123\145\162\166  
\151\143\145\163\040\163\056\154\056\061\053\060\051\006\003\125  
\004\012\024\042\151\160\163\100\155\141\151\154\056\151\160\163  
\056\145\163\040\103\056\111\056\106\056\040\040\102\055\066\060  
\071\062\071\064\065\062\061\063\060\061\006\003\125\004\013\023  
\052\111\120\123\040\103\101\040\103\150\141\151\156\145\144\040  
\103\101\163\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\063\060\061\006

\003\125\004\003\023\052\111\120\123\040\103\101\040\103\150\141  
\151\156\145\144\040\103\101\163\040\103\145\162\164\151\146\151  
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171  
\061\036\060\034\006\011\052\206\110\206\367\015\001\011\001\026  
\017\151\160\163\100\155\141\151\154\056\151\160\163\056\145\163  
END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\007\367\060\202\007\140\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\202\001\034\061\013\060\011\006\003\125\004\006\023\002\105\123  
\061\022\060\020\006\003\125\004\010\023\011\102\141\162\143\145  
\154\157\156\141\061\022\060\020\006\003\125\004\007\023\011\102  
\141\162\143\145\154\157\156\141\061\056\060\054\006\003\125\004  
\012\023\045\111\120\123\040\111\156\164\145\162\156\145\164\040  
\160\165\142\154\151\163\150\151\156\147\040\123\145\162\166\151  
\143\145\163\040\163\056\154\056\061\053\060\051\006\003\125\004  
\012\024\042\151\160\163\100\155\141\151\154\056\151\160\163\056  
\145\163\040\103\056\111\056\106\056\040\040\102\055\066\060\071  
\062\071\064\065\062\061\063\060\061\006\003\125\004\013\023\052  
\111\120\123\040\103\101\040\103\150\141\151\156\145\144\040\103  
\101\163\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171\061\063\060\061\006\003  
\125\004\003\023\052\111\120\123\040\103\101\040\103\150\141\151  
\156\145\144\040\103\101\163\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\061  
\036\060\034\006\011\052\206\110\206\367\015\001\011\001\026\017  
\151\160\163\100\155\141\151\154\056\151\160\163\056\145\163\060  
\036\027\015\060\061\061\062\062\071\060\060\065\063\065\070\132  
\027\015\062\065\061\062\062\067\060\060\065\063\065\070\132\060  
\202\001\034\061\013\060\011\006\003\125\004\006\023\002\105\123  
\061\022\060\020\006\003\125\004\010\023\011\102\141\162\143\145  
\154\157\156\141\061\022\060\020\006\003\125\004\007\023\011\102  
\141\162\143\145\154\157\156\141\061\056\060\054\006\003\125\004  
\012\023\045\111\120\123\040\111\156\164\145\162\156\145\164\040  
\160\165\142\154\151\163\150\151\156\147\040\123\145\162\166\151  
\143\145\163\040\163\056\154\056\061\053\060\051\006\003\125\004  
\012\024\042\151\160\163\100\155\141\151\154\056\151\160\163\056  
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END

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Trust for Certificate "IPS Chained CAs root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

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CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
  CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IPS Chained CAs root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\310\302\137\026\236\370\120\164\325\276\350\315\242\324\074\256
\347\137\322\127
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CKA_CERT_MD5_HASH MULTILINE_OCTAL
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CKA_ISSUER MULTILINE_OCTAL
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  MULTILINE_OCTAL
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "IPS CLASE1 root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

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CKA_LABEL UTF8 "IPS CLASE1 root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE
CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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MULTILINE\_OCTAL

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Trust for Certificate "IPS CLASE1 root"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "IPS CLASE1 root"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
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CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

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CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "IPS CLASE3 root"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IPS CLASE3 root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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UTF8 "0"

CKA\_ISSUER

MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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Trust for Certificate "IPS CLASE3 root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IPS CLASE3 root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "IPS CLASEA1 root"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IPS CLASEA1 root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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CKA\_VALUE

MULTILINE\_OCTAL

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Trust for Certificate "IPS CLASEA1 root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IPS CLASEA1 root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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CKA\_ISSUER MULTILINE\_OCTAL

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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "IPS CLASEA3 root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IPS CLASEA3 root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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Trust for Certificate "IPS CLASEA3 root"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IPS CLASEA3 root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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MULTILINE_OCTAL
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CKA_TRUST_CODE_SIGNING
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CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "IPS Timestamping root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IPS Timestamping root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

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Trust for Certificate "IPS Timestamping root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IPS Timestamping root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

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CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

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CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

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CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA"
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\013\072\032\337\021\200\144\225\264\321\274\315\172\317\366\051  
\226\056\044\124\100\044\070\367\032\205\334\130\114\313\244\047  
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\004\164\342\301\324\072\253\327\255\073\007\030\005\216\375\203  
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\051\271\006\031\354\071\071\251\360\227\204\152\313\357\337\060
\201\256\006\003\125\035\043\004\201\246\060\201\243\200\024\213
\113\155\355\323\051\271\006\031\354\071\071\251\360\227\204\152
\313\357\337\241\201\204\244\201\201\060\177\061\013\060\011\006
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\012\023\020\121\165\157\126\141\144\151\163\040\114\151\155\151
\164\145\144\061\045\060\043\006\003\125\004\013\023\034\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\061\056\060\054\006\003
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\040\101\165\164\150\157\162\151\164\171\202\004\072\266\120\213
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\212\324\024\265\376\364\232\222\247\031\324\244
\176\162\030\217\331\150\174\122\044\335\147\157\071\172\304\252
\136\075\342\130\260\115\160\230\204\141\350\033\343\151\030\016
\316\373\107\120\240\116\377\360\044\037\275\262\316\365\047\374
\354\057\123\252\163\173\003\075\164\156\346\026\236\353\245\056
\304\277\126\047\120\053\142\272\276\113\034\074\125\134\101\035
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\160\170\127\035\063\036\375\002\231\234\014\315\012\005\117\307
\273\216\244\165\372\112\155\261\200\216\011\126\271\234\032\140
\376\135\301\327\172\334\021\170\320\326\135\301\267\325\255\062
\231\003\072\212\314\124\045\071\061\201\173\023\042\121\272\106
\154\241\273\236\372\004\154\111\046\164\217\322\163\353\314\060
\242\346\352\131\042\207\370\227\365\016\375\352\314\222\244\026
\304\122\030\352\041\316\261\361\346\204\201\345\272\251\206\050
\362\103\132\135\022\235\254\036\331\250\345\012\152\247\177\240
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\112\164\066\371
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END

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Trust for Certificate "QuoVadis Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\336\077\100\275\120\223\323\233\154\140\366\332\274\007\142\001
\000\211\166\311
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END

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CKA_CERT_MD5_HASH MULTILINE_OCTAL
\047\336\066\376\162\267\000\003\000\235\364\360\036\154\004\044
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\045\060\043\006\003
\125\004\013\023\034\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\056\060\054\006\003\125\004\003\023\045\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\072\266\120\213
END
CKA_TRUST_SERVER_AUTH CK_TRUST
CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
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END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
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\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
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END
CKA_SERIAL_NUMBER

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MULTILINE\_OCTAL

\002\002\005\011

END

CKA\_VALUE MULTILINE\_OCTAL

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\064\061\070\062\067\060\060\132\027\015\063\061\061\061\062\064  
\061\070\062\063\063\063\132\060\105\061\013\060\011\006\003\125  
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\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145  
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\037\266\311\126\146\360\165\045\334\147\301\016\141\140\210\263  
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\264\170\245\072\207\114\215\212\245\325\106\227\362\054\020\271  
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\020\005\145\325\202\020\352\302\061\315\056

END

#

Trust for Certificate "QuoVadis Root CA 2"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\312\072\373\317\022\100\066\113\104\262\026\040\210\200\110\071  
\031\223\174\367

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\136\071\173\335\370\272\354\202\351\254\142\272\014\124\000\053

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\002\005\011

END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "QuoVadis Root CA 3"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003  
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\063

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157  
\157\164\040\103\101\040\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\002\005\306

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\235\060\202\004\205\240\003\002\001\002\002\002\005  
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\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061  
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144  
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\064\061\071\061\061\062\063\132\027\015\063\061\061\061\062\064  
\061\071\060\066\064\064\132\060\105\061\013\060\011\006\003\125  
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023  
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145  
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\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\314  
\127\102\026\124\234\346\230\323\323\115\356\376\355\307\237\103  
\071\112\145\263\350\026\210\064\333\015\131\221\164\317\222\270  
\004\100\255\002\113\061\253\274\215\221\150\330\040\016\032\001  
\342\032\173\116\027\135\342\212\267\077\231\032\315\353\141\253  
\302\145\246\037\267\267\275\267\217\374\375\160\217\013\240\147  
\276\001\242\131\317\161\346\017\051\166\377\261\126\171\105\053  
\037\236\172\124\350\243\051\065\150\244\001\117\017\244\056\067  
\357\033\277\343\217\020\250\162\253\130\127\347\124\206\310\311  
\363\133\332\054\332\135\216\156\074\243\076\332\373\202\345\335  
\362\134\262\005\063\157\212\066\316\320\023\116\377\277\112\014  
\064\114\246\303\041\275\120\004\125\353\261\273\235\373\105\036  
\144\025\336\125\001\214\002\166\265\313\241\077\102\151\274\057  
\275\150\103\026\126\211\052\067\141\221\375\246\256\116\300\313  
\024\145\224\067\113\222\006\357\004\320\310\234\210\333\013\173  
\201\257\261\075\052\304\145\072\170\266\356\334\200\261\322\323  
\231\234\072\356\153\132\153\263\215\267\325\316\234\302\276\245  
\113\057\026\261\236\150\073\006\157\256\175\237\370\336\354\314  
\051\247\230\243\045\103\057\357\361\137\046\341\210\115\370\136  
\156\327\331\024\156\031\063\151\247\073\204\211\223\304\123\125  
\023\241\121\170\100\370\270\311\242\356\173\272\122\102\203\236

\024\355\005\122\132\131\126\247\227\374\235\077\012\051\330\334  
\117\221\016\023\274\336\225\244\337\213\231\276\254\233\063\210  
\357\265\201\257\033\306\042\123\310\366\307\356\227\024\260\305  
\174\170\122\310\360\316\156\167\140\204\246\351\052\166\040\355  
\130\001\027\060\223\351\032\213\340\163\143\331\152\222\224\111  
\116\264\255\112\205\304\243\042\060\374\011\355\150\042\163\246  
\210\014\125\041\130\305\341\072\237\052\335\312\341\220\340\331  
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\014\354\221\046\207\212\263\242\341\160\217\054\012\345\315\155  
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\342\042\310\264\264\144\117\326\272\175\110\076\250\151\014\327  
\273\206\161\311\163\270\077\073\235\045\113\332\377\100\353\002  
\003\001\000\001\243\202\001\225\060\202\001\221\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\341  
\006\003\125\035\040\004\201\331\060\201\326\060\201\323\006\011  
\053\006\001\004\001\276\130\000\003\060\201\305\060\201\223\006  
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\145\162\164\151\146\151\143\141\164\145\040\143\157\156\163\164  
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\151\146\151\143\141\164\145\040\120\157\154\151\143\171\040\057  
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\162\141\143\164\151\143\145\040\123\164\141\164\145\155\145\156  
\164\056\060\055\006\010\053\006\001\005\005\007\002\001\026\041  
\150\164\164\160\072\057\057\167\167\167\056\161\165\157\166\141  
\144\151\163\147\154\157\142\141\154\056\143\157\155\057\143\160  
\163\060\013\006\003\125\035\017\004\004\003\002\001\006\060\035  
\006\003\125\035\016\004\026\004\024\362\300\023\340\202\103\076  
\373\356\057\147\062\226\065\134\333\270\313\002\320\060\156\006  
\003\125\035\043\004\147\060\145\200\024\362\300\023\340\202\103  
\076\373\356\057\147\062\226\065\134\333\270\313\002\320\241\111  
\244\107\060\105\061\013\060\011\006\003\125\004\006\023\002\102  
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126  
\141\144\151\163\040\114\151\155\151\164\145\144\061\033\060\031  
\006\003\125\004\003\023\022\121\165\157\126\141\144\151\163\040  
\122\157\157\164\040\103\101\040\063\202\002\005\306\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001  
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\140\247\073\135\140\123\047\242\233\366\010\042\052\347\277\240  
\162\345\234\044\152\061\261\220\172\047\333\204\021\211\047\246  
\167\132\070\327\277\254\206\374\356\135\203\274\006\306\321\167  
\153\017\155\044\057\113\172\154\247\007\226\312\343\204\237\255  
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\245\122\014\115\111\121\225\066\075\277\242\113\014\020\035\206
\231\114\252\363\162\021\223\344\352\366\233\332\250\135\247\115
\267\236\002\256\163\000\310\332\043\003\350\371\352\031\164\142
\000\224\313\042\040\276\224\247\131\265\202\152\276\231\171\172
\251\362\112\044\122\367\164\375\272\116\346\250\035\002\156\261
\015\200\104\301\256\323\043\067\137\273\205\174\053\222\056\350
\176\245\213\335\231\341\277\047\157\055\135\252\173\207\376\012
\335\113\374\216\365\046\344\156\160\102\156\063\354\061\236\173
\223\301\344\311\151\032\075\300\153\116\042\155\356\253\130\115
\306\320\101\301\053\352\117\022\207\136\353\105\330\154\365\230
\002\323\240\330\125\212\006\231\031\242\240\167\321\060\236\254
\314\165\356\203\365\260\142\071\317\154\127\342\114\322\221\013
\016\165\050\033\232\277\375\032\103\361\312\167\373\073\217\141
\270\151\050\026\102\004\136\160\052\034\041\330\217\341\275\043
\133\055\164\100\222\331\143\031\015\163\335\151\274\142\107\274
\340\164\053\262\353\175\276\101\033\265\300\106\305\241\042\313
\137\116\301\050\222\336\030\272\325\052\050\273\021\213\027\223
\230\231\140\224\134\043\317\132\047\227\136\013\005\006\223\067
\036\073\151\066\353\251\236\141\035\217\062\332\216\014\326\164
\076\173\011\044\332\001\167\107\304\073\315\064\214\231\365\312
\341\045\141\063\262\131\033\342\156\327\067\127\266\015\251\022
\332
```

END

#

Trust for Certificate "QuoVadis Root CA 3"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "QuoVadis Root CA 3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\037\111\024\367\330\164\225\035\335\256\002\300\276\375\072\055
\202\165\121\205
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\061\205\074\142\224\227\143\271\252\375\211\116\257\157\340\317
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\002\005\306
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "Security Communication Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
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```
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
```

```
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
```

```
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\132\060\202\002\102\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061\030
\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040\124
\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125\004
\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155\155
\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103\101
\061\060\036\027\015\060\063\060\071\063\060\060\064\062\060\064
\071\132\027\015\062\063\060\071\063\060\060\064\062\060\064\071
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\132\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120  
\061\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115  
\040\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003  
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\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367  
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\202\001\001\000\263\263\376\177\323\155\261\357\026\174\127\245  
\014\155\166\212\057\113\277\144\373\114\356\212\360\363\051\174  
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\161\070\171\254\227\222\151\263\211\176\352\041\150\006\230\024  
\226\207\322\141\066\274\155\047\126\236\127\356\300\300\126\375  
\062\317\244\331\216\302\043\327\215\250\363\330\045\254\227\344  
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\162\114\043\060\207\001\130\366\116\276\034\150\126\146\257\315  
\101\135\310\263\115\052\125\106\253\037\332\036\342\100\075\333  
\315\175\271\222\200\234\067\335\014\226\144\235\334\042\367\144  
\213\337\141\336\025\224\122\025\240\175\122\311\113\250\041\311  
\306\261\355\313\303\225\140\321\017\360\253\160\370\337\313\115  
\176\354\326\372\253\331\275\177\124\362\245\351\171\372\331\326  
\166\044\050\163\002\003\001\000\001\243\077\060\075\060\035\006  
\003\125\035\016\004\026\004\024\240\163\111\231\150\334\205\133  
\145\343\233\050\057\127\237\275\063\274\007\110\060\013\006\003  
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\150\100  
\251\250\273\344\117\135\171\263\005\265\027\263\140\023\353\306  
\222\135\340\321\323\152\376\373\276\233\155\277\307\005\155\131  
\040\304\034\360\267\332\204\130\002\143\372\110\026\357\117\245  
\013\367\112\230\362\077\236\033\255\107\153\143\316\010\107\353  
\122\077\170\234\257\115\256\370\325\117\317\232\230\052\020\101  
\071\122\304\335\331\233\016\357\223\001\256\262\056\312\150\102  
\044\102\154\260\263\072\076\315\351\332\110\304\025\313\351\371  
\007\017\222\120\111\212\335\061\227\137\311\351\067\252\073\131  
\145\227\224\062\311\263\237\076\072\142\130\305\111\255\142\016  
\161\245\062\252\057\306\211\166\103\100\023\023\147\075\242\124  
\045\020\313\361\072\362\331\372\333\111\126\273\246\376\247\101  
\065\303\340\210\141\311\210\307\337\066\020\042\230\131\352\260  
\112\373\126\026\163\156\254\115\367\042\241\117\255\035\172\055  
\105\047\345\060\301\136\362\332\023\313\045\102\121\225\107\003  
\214\154\041\314\164\102\355\123\377\063\213\217\017\127\001\026  
\057\317\246\356\311\160\042\024\275\375\276\154\013\003

END

#

```

Trust for Certificate "Security Communication Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security
Communication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\066\261\053\111\371\201\236\327\114\236\274\070\017\306\126\217
\135\254\262\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\361\274\143\152\124\340\265\047\365\315\347\032\343\115\156\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Sonera Class 1 Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Sonera Class 1 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\017\060\015\006\003\125\004\012\023\006\123\157\156\145\162\141
\061\031\060\027\006\003\125\004\003\023\020\123\157\156\145\162
\141\040\103\154\141\163\163\061\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

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\060\071\061\013\060\011\006\003\125\004\006\023\002\106\111\061  
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\061\031\060\027\006\003\125\004\003\023\020\123\157\156\145\162  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\044

END

CKA\_VALUE MULTILINE\_OCTAL

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\060\015\006\003\125\004\012\023\006\123\157\156\145\162\141\061  
\031\060\027\006\003\125\004\003\023\020\123\157\156\145\162\141  
\040\103\154\141\163\163\061\040\103\101\060\036\027\015\060\061  
\060\064\060\066\061\060\064\071\061\063\132\027\015\062\061\060  
\064\060\066\061\060\064\071\061\063\132\060\071\061\013\060\011  
\006\003\125\004\006\023\002\106\111\061\017\060\015\006\003\125  
\004\012\023\006\123\157\156\145\162\141\061\031\060\027\006\003  
\125\004\003\023\020\123\157\156\145\162\141\040\103\154\141\163  
\163\061\040\103\101\060\202\001\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001  
\012\002\202\001\001\000\265\211\037\053\117\147\012\171\377\305  
\036\370\177\074\355\321\176\332\260\315\155\057\066\254\064\306  
\333\331\144\027\010\143\060\063\042\212\114\356\216\273\017\015  
\102\125\311\235\056\245\357\367\247\214\303\253\271\227\313\216  
\357\077\025\147\250\202\162\143\123\017\101\214\175\020\225\044  
\241\132\245\006\372\222\127\235\372\245\001\362\165\351\037\274  
\126\046\122\116\170\031\145\130\125\003\130\300\024\256\214\174  
\125\137\160\133\167\043\006\066\227\363\044\265\232\106\225\344  
\337\015\013\005\105\345\321\362\035\202\273\306\023\340\376\252  
\172\375\151\060\224\363\322\105\205\374\362\062\133\062\336\350  
\154\135\037\313\244\042\164\260\200\216\135\224\367\006\000\113  
\251\324\136\056\065\120\011\363\200\227\364\014\027\256\071\330  
\137\315\063\301\034\312\211\302\042\367\105\022\355\136\022\223  
\235\143\253\202\056\271\353\102\101\104\313\112\032\000\202\015  
\236\371\213\127\076\114\307\027\355\054\213\162\063\137\162\172  
\070\126\325\346\331\256\005\032\035\165\105\261\313\245\045\034  
\022\127\066\375\042\067\002\003\001\000\001\243\063\060\061\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\021\006\003\125\035\016\004\012\004\010\107\342\014\213\366  
\123\210\122\060\013\006\003\125\035\017\004\004\003\002\001\006  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\213\032\262\311\135\141\264\341\271\053\271\123  
\321\262\205\235\167\216\026\356\021\075\333\302\143\331\133\227  
\145\373\022\147\330\052\134\266\253\345\136\303\267\026\057\310  
\350\253\035\212\375\253\032\174\325\137\143\317\334\260\335\167  
\271\250\346\322\042\070\207\007\024\331\377\276\126\265\375\007

```
\016\074\125\312\026\314\247\246\167\067\373\333\134\037\116\131
\006\207\243\003\103\365\026\253\267\204\275\116\357\237\061\067
\360\106\361\100\266\321\014\245\144\370\143\136\041\333\125\116
\117\061\166\234\020\141\216\266\123\072\243\021\276\257\155\174
\036\275\256\055\342\014\151\307\205\123\150\242\141\272\305\076
\264\171\124\170\236\012\307\002\276\142\321\021\202\113\145\057
\221\132\302\250\207\261\126\150\224\171\371\045\367\301\325\256
\032\270\273\075\217\251\212\070\025\367\163\320\132\140\321\200
\260\360\334\325\120\315\116\356\222\110\151\355\262\043\036\060
\314\310\224\310\266\365\073\206\177\077\246\056\237\366\076\054
\265\222\226\076\337\054\223\212\377\201\214\017\017\131\041\031
\127\275\125\232
END
```

```
#
```

```
Trust for Certificate "Sonera Class 1 Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Sonera Class 1 Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\007\107\042\001\231\316\164\271\174\260\075\171\262\144\242\310
\125\351\063\377
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\063\267\204\365\137\047\327\150\047\336\024\336\022\052\355\157
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\017\060\015\006\003\125\004\012\023\006\123\157\156\145\162\141
\061\031\060\027\006\003\125\004\003\023\020\123\157\156\145\162
\141\040\103\154\141\163\163\061\040\103\101
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\044
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST
CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Sonera Class 2 Root CA"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Sonera Class 2 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\017\060\015\006\003\125\004\012\023\006\123\157\156\145\162\141
\061\031\060\027\006\003\125\004\003\023\020\123\157\156\145\162
\141\040\103\154\141\163\163\062\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\017\060\015\006\003\125\004\012\023\006\123\157\156\145\162\141
\061\031\060\027\006\003\125\004\003\023\020\123\157\156\145\162
\141\040\103\154\141\163\163\062\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\035
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\040\060\202\002\010\240\003\002\001\002\002\001\035
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\071\061\013\060\011\006\003\125\004\006\023\002\106\111\061\017
\060\015\006\003\125\004\012\023\006\123\157\156\145\162\141\061
\031\060\027\006\003\125\004\003\023\020\123\157\156\145\162\141
\040\103\154\141\163\163\062\040\103\101\060\036\027\015\060\061
\060\064\060\066\060\067\062\071\064\060\132\027\015\062\061\060
\064\060\066\060\067\062\071\064\060\132\060\071\061\013\060\011
\006\003\125\004\006\023\002\106\111\061\017\060\015\006\003\125
\004\012\023\006\123\157\156\145\162\141\061\031\060\027\006\003
\125\004\003\023\020\123\157\156\145\162\141\040\103\154\141\163
\163\062\040\103\101\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\220\027\112\065\235\312\360\015\226\307
\104\372\026\067\374\110\275\275\177\200\055\065\073\341\157\250
\147\251\277\003\034\115\214\157\062\107\325\101\150\244\023\004
\301\065\014\232\204\103\374\134\035\377\211\263\350\027\030\315
\221\137\373\211\343\352\277\116\135\174\033\046\323\165\171\355
\346\204\343\127\345\255\051\304\364\072\050\347\245\173\204\066
\151\263\375\136\166\275\243\055\231\323\220\116\043\050\175\030
\143\361\124\073\046\235\166\133\227\102\262\377\256\360\116\354
\335\071\225\116\203\006\177\347\111\100\310\305\001\262\124\132
\146\035\075\374\371\351\074\012\236\201\270\160\360\001\213\344
\043\124\174\310\256\370\220\036\000\226\162\324\124\317\141\043
\274\352\373\235\002\225\321\266\271\161\072\151\010\077\017\264
\341\102\307\210\365\077\230\250\247\272\034\340\161\161\357\130
\127\201\120\172\134\153\164\106\016\203\003\230\303\216\250\156
```

```
\362\166\062\156\047\203\302\163\363\334\030\350\264\223\352\165
\104\153\004\140\040\161\127\207\235\363\276\240\220\043\075\212
\044\341\332\041\333\303\002\003\001\000\001\243\063\060\061\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\021\006\003\125\035\016\004\012\004\010\112\240\252\130\204
\323\136\074\060\013\006\003\125\035\017\004\004\003\002\001\006
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\132\316\207\371\026\162\025\127\113\035\331\233
\347\242\046\060\354\223\147\337\326\055\322\064\257\367\070\245
\316\253\026\271\253\057\174\065\313\254\320\017\264\114\053\374
\200\357\153\214\221\137\066\166\367\333\263\033\031\352\364\262
\021\375\141\161\104\277\050\263\072\035\277\263\103\350\237\277
\334\061\010\161\260\235\215\326\064\107\062\220\306\145\044\367
\240\112\174\004\163\217\071\157\027\214\162\265\275\113\310\172
\370\173\203\303\050\116\234\011\352\147\077\262\147\004\033\303
\024\332\370\347\111\044\221\320\035\152\372\141\071\357\153\347
\041\165\006\007\330\022\264\041\040\160\102\161\201\332\074\232
\066\276\246\133\015\152\154\232\037\221\173\371\371\357\102\272
\116\116\236\314\014\215\224\334\331\105\234\136\354\102\120\143
\256\364\135\304\261\022\334\312\073\250\056\235\024\132\005\165
\267\354\327\143\342\272\065\266\004\010\221\350\332\235\234\366
\146\265\030\254\012\246\124\046\064\063\322\033\301\324\177\032
\072\216\013\252\062\156\333\374\117\045\237\331\062\307\226\132
\160\254\337\114
```

END

#

Trust for Certificate "Sonera Class 2 Root CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Sonera Class 2 Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\067\367\155\346\007\174\220\305\261\076\223\032\267\101\020\264
\362\344\232\047
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\243\354\165\017\056\210\337\372\110\001\116\013\134\110\157\373
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\017\060\015\006\003\125\004\012\023\006\123\157\156\145\162\141
\061\031\060\027\006\003\125\004\003\023\020\123\157\156\145\162
\141\040\103\154\141\163\163\062\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\001\035
```

```
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "Staat der Nederlanden Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\125\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\023\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\046\060\044\006\003\125\004\003\023\035\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101
```

```
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\125\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\023\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\046\060\044\006\003\125\004\003\023\035\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101
```

```
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\000\230\226\212
```

```
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\272\060\202\002\242\240\003\002\001\002\002\004\000
\230\226\212\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\125\061\013\060\011\006\003\125\004\006\023\002\116
\114\061\036\060\034\006\003\125\004\012\023\025\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\061\046\060\044\006\003\125\004\003\023\035\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\040\122\157\157\164\040\103\101\060\036\027\015\060\062\061
\062\061\067\060\071\062\063\064\071\132\027\015\061\065\061\062
\061\066\060\071\061\065\063\070\132\060\125\061\013\060\011\006
```

\003\125\004\006\023\002\116\114\061\036\060\034\006\003\125\004  
\012\023\025\123\164\141\141\164\040\144\145\162\040\116\145\144  
\145\162\154\141\156\144\145\156\061\046\060\044\006\003\125\004  
\003\023\035\123\164\141\141\164\040\144\145\162\040\116\145\144  
\145\162\154\141\156\144\145\156\040\122\157\157\164\040\103\101  
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\230\322\265\121\021\172\201\246\024\230\161\155\276\314\347  
\023\033\326\047\016\172\263\152\030\034\266\141\132\325\141\011  
\277\336\220\023\307\147\356\335\363\332\305\014\022\236\065\125  
\076\054\047\210\100\153\367\334\335\042\141\365\302\307\016\365  
\366\325\166\123\115\217\214\274\030\166\067\205\235\350\312\111  
\307\322\117\230\023\011\242\076\042\210\234\177\326\362\020\145  
\264\356\137\030\325\027\343\370\305\375\342\235\242\357\123\016  
\205\167\242\017\341\060\107\356\000\347\063\175\104\147\032\013  
\121\350\213\240\236\120\230\150\064\122\037\056\155\001\362\140  
\105\362\061\353\251\061\150\051\273\172\101\236\306\031\177\224  
\264\121\071\003\177\262\336\247\062\233\264\107\216\157\264\112  
\256\345\257\261\334\260\033\141\274\231\162\336\344\211\267\172  
\046\135\332\063\111\133\122\234\016\365\212\255\303\270\075\350  
\006\152\302\325\052\013\154\173\204\275\126\005\313\206\145\222  
\354\104\053\260\216\271\334\160\013\106\332\255\274\143\210\071  
\372\333\152\376\043\372\274\344\110\364\147\053\152\021\020\041  
\111\002\003\001\000\001\243\201\221\060\201\216\060\014\006\003  
\125\035\023\004\005\060\003\001\001\377\060\117\006\003\125\035  
\040\004\110\060\106\060\104\006\004\125\035\040\000\060\074\060  
\072\006\010\053\006\001\005\005\007\002\001\026\056\150\164\164  
\160\072\057\057\167\167\167\056\160\153\151\157\166\145\162\150  
\145\151\144\056\156\154\057\160\157\154\151\143\151\145\163\057  
\162\157\157\164\055\160\157\154\151\143\171\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125  
\035\016\004\026\004\024\250\175\353\274\143\244\164\023\164\000  
\354\226\340\323\064\301\054\277\154\370\060\015\006\011\052\206  
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\005\204  
\207\125\164\066\141\301\273\321\324\306\025\250\023\264\237\244  
\376\273\356\025\264\057\006\014\051\362\250\222\244\141\015\374  
\253\134\010\133\121\023\053\115\302\052\141\310\370\011\130\374  
\055\002\262\071\175\231\146\201\277\156\134\225\105\040\154\346  
\171\247\321\330\034\051\374\302\040\047\121\310\361\174\135\064  
\147\151\205\021\060\306\000\322\327\363\323\174\266\360\061\127  
\050\022\202\163\351\063\057\246\125\264\013\221\224\107\234\372  
\273\172\102\062\350\256\176\055\310\274\254\024\277\331\017\331  
\133\374\301\371\172\225\341\175\176\226\374\161\260\302\114\310  
\337\105\064\311\316\015\362\234\144\010\320\073\303\051\305\262  
\355\220\004\301\261\051\221\305\060\157\301\251\162\063\314\376  
\135\026\027\054\021\151\347\176\376\305\203\010\337\274\334\042  
\072\056\040\151\043\071\126\140\147\220\213\056\166\071\373\021  
\210\227\366\174\275\113\270\040\026\147\005\215\342\073\301\162

```
\077\224\225\067\307\135\271\236\330\223\241\027\217\377\014\146
\025\301\044\174\062\174\003\035\073\241\130\105\062\223
END
```

```
#
```

```
Trust for Certificate "Staat der Nederlanden Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\020\035\372\077\325\013\313\273\233\265\140\014\031\125\244\032
\364\163\072\004
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\140\204\174\132\316\333\014\324\313\247\351\376\002\306\251\300
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\125\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\023\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\046\060\044\006\003\125\004\003\023\035\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101
END
```

```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\000\230\226\212
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "TDC Internet Root CA"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TDC Internet Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\104\113\061
\025\060\023\006\003\125\004\012\023\014\124\104\103\040\111\156
\164\145\162\156\145\164\061\035\060\033\006\003\125\004\013\023
```

```
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\164\145\162\156\145\164\061\035\060\033\006\003\125\004\013\023
\024\124\104\103\040\111\156\164\145\162\156\145\164\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\072\314\245\114
END
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\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\104
\113\061\025\060\023\006\003\125\004\012\023\014\124\104\103\040
\111\156\164\145\162\156\145\164\061\035\060\033\006\003\125\004
\013\023\024\124\104\103\040\111\156\164\145\162\156\145\164\040
\122\157\157\164\040\103\101\060\036\027\015\060\061\060\064\060
\065\061\066\063\063\061\067\132\027\015\062\061\060\064\060\065
\061\067\060\063\061\067\132\060\103\061\013\060\011\006\003\125
\004\006\023\002\104\113\061\025\060\023\006\003\125\004\012\023
\014\124\104\103\040\111\156\164\145\162\156\145\164\061\035\060
\033\006\003\125\004\013\023\024\124\104\103\040\111\156\164\145
\162\156\145\164\040\122\157\157\164\040\103\101\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\304\270\100
\274\221\325\143\037\327\231\240\213\014\100\036\164\267\110\235
\106\214\002\262\340\044\137\360\031\023\247\067\203\153\135\307
\216\371\204\060\316\032\073\372\373\316\213\155\043\306\303\156
\146\237\211\245\337\340\102\120\147\372\037\154\036\364\320\005
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\272\275\101\210\324\164\263\371\136\070\072\074\103\250\322\225
\116\167\155\023\014\235\217\170\001\267\132\040\037\003\067\065
\342\054\333\113\053\054\170\271\111\333\304\320\307\234\234\344
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\044\136\303\177\160\172\022\304\322\265\020\240\266\041\341\215
\170\151\125\104\151\365\312\226\034\064\205\027\045\167\342\366
\057\047\230\170\375\171\006\072\242\326\132\103\301\377\354\004
\073\356\023\357\323\130\132\377\222\353\354\256\332\362\067\003
\107\101\266\227\311\055\012\101\042\273\273\346\247\002\003\001
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\065\056\060\072\064\056\060\003\002\004\220\060\015\006\011\052  
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\250\231\167\014\345\132\240\204\377\022\026\254\156\270\215\303  
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\323\230\171\332\010\036\014\157\270\370\026\047\357\302\157\075  
\366\243\113\076\016\344\155\154\333\073\101\022\233\275\015\107  
\043\177\074\112\320\257\300\257\366\357\033\265\025\304\353\203  
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\151\003\142\270\231\005\005\075\153\170\022\275\260\157\145  
END

#

Trust for Certificate "TDC Internet Root CA"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL  
UTF8 "TDC Internet Root CA"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\041\374\275\216\177\154\257\005\033\321\263\103\354\250\347\141  
\107\362\017\212

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\164\145\162\156\145\164\061\035\060\033\006\003\125\004\013\023
\024\124\104\103\040\111\156\164\145\162\156\145\164\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\072\314\245\114
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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TDC OCES Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TDC OCES Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\061\061\013\060\011\006\003\125\004\006\023\002\104\113\061
\014\060\012\006\003\125\004\012\023\003\124\104\103\061\024\060
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\040\103\101
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CKA_ID UTF8 "0"
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\014\060\012\006\003\125\004\012\023\003\124\104\103\061\024\060
\022\006\003\125\004\003\023\013\124\104\103\040\117\103\105\123
\040\103\101
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END
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\226\374\354\031\344\262\227\046\116\112\114\313\217\044\213\124  
\030\034\110\141\173\325\210\150\332\135\265\352\315\032\060\301  
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\007\002\002\060\201\220\060\012\026\003\124\104\103\060\003\002  
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\144\163\164\145\144\145\163\040\165\156\144\145\162\040\117\111  
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\061\056\061\056\040\103\145\162\164\151\146\151\143\141\164\145  
\163\040\146\162\157\155\040\164\150\151\163\040\103\101\040\141  
\162\145\040\151\163\163\165\145\144\040\165\156\144\145\162\040  
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\037\004\172\060\170\060\110\240\106\240\104\244\102\060\100\061  
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\154\056\157\143\145\163\056\143\145\162\164\151\146\151\153\141
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\062\061\061\060\071\060\071\063\060\132\060\037\006\003\125\035
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\035\016\004\026\004\024\140\265\205\354\126\144\176\022\031\047
\147\035\120\025\113\163\256\073\371\022\060\035\006\011\052\206
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\231\270\006\202\121\201\116\361\365\264\221\124\271\043\172\000
\232\237\135\215\340\074\144\271\032\022\222\052\307\202\104\162
\071\334\342\074\306\330\125\365\025\116\310\005\016\333\306\320
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\056\027\363\004\047\166\147\353\124\203\375\244\220\176\006\075
\004\243\103\055\332\374\013\142\352\057\137\142\123
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END

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Trust for Certificate "TDC OCES Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TDC OCES Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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\004\212\016\001
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
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END
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\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\076\110\275\304
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
#
Certificate "UTN DATA Corp SGC Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UTN DATA Corp SGC Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\223\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\033\060\031\006\003\125
\004\003\023\022\125\124\116\040\055\040\104\101\124\101\103\157
\162\160\040\123\107\103
END
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CKA_ID UTF8 "0"
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\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
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\164\162\165\163\164\056\143\157\155\061\033\060\031\006\003\125
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164  
\167\157\162\153\061\041\060\037\006\003\125\004\013\023\030\150  
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\165\163\164\056\143\157\155\061\033\060\031\006\003\125\004\003  
\023\022\125\124\116\040\055\040\104\101\124\101\103\157\162\160  
\040\123\107\103\060\036\027\015\071\071\060\066\062\064\061\070  
\065\067\062\061\132\027\015\061\071\060\066\062\064\061\071\060  
\066\063\060\132\060\201\223\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\013\060\011\006\003\125\004\010\023\002\125  
\124\061\027\060\025\006\003\125\004\007\023\016\123\141\154\164  
\040\114\141\153\145\040\103\151\164\171\061\036\060\034\006\003  
\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122\125  
\123\124\040\116\145\164\167\157\162\153\061\041\060\037\006\003  
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\031\006\003\125\004\003\023\022\125\124\116\040\055\040\104\101  
\124\101\103\157\162\160\040\123\107\103\060\202\001\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001  
\017\000\060\202\001\012\002\202\001\001\000\337\356\130\020\242  
\053\156\125\304\216\277\056\106\011\347\340\010\017\056\053\172  
\023\224\033\275\366\266\200\216\145\005\223\000\036\274\257\342  
\017\216\031\015\022\107\354\254\255\243\372\056\160\370\336\156  
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\017\117\326\303\234\264\276\224\031\143\362\246\021\012\353\123  
\110\234\276\362\051\073\026\350\032\240\114\246\311\364\030\131  
\150\300\160\362\123\000\300\136\120\202\245\126\157\066\371\112  
\340\104\206\240\115\116\326\107\156\111\112\313\147\327\246\304  
\005\271\216\036\364\374\377\315\347\066\340\234\005\154\262\063  
\042\025\320\264\340\314\027\300\262\300\364\376\062\077\051\052  
\225\173\330\362\247\116\017\124\174\241\015\200\263\011\003\301  
\377\134\335\136\232\076\274\256\274\107\212\152\256\161\312\037  
\261\052\270\137\102\005\013\354\106\060\321\162\013\312\351\126  
\155\365\357\337\170\276\141\272\262\245\256\004\114\274\250\254  
\151\025\227\275\357\353\264\214\277\065\370\324\303\321\050\016

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\002\001\306\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\123
\062\321\263\317\177\372\340\361\240\135\205\116\222\322\236\105
\035\264\117\060\075\006\003\125\035\037\004\066\060\064\060\062
\240\060\240\056\206\054\150\164\164\160\072\057\057\143\162\154
\056\165\163\145\162\164\162\165\163\164\056\143\157\155\057\125
\124\116\055\104\101\124\101\103\157\162\160\123\107\103\056\143
\162\154\060\052\006\003\125\035\045\004\043\060\041\006\010\053
\006\001\005\005\007\003\001\006\012\053\006\001\004\001\202\067
\012\003\003\006\011\140\206\110\001\206\370\102\004\001\060\015
\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001
\001\000\047\065\227\000\212\213\050\275\306\063\060\036\051\374
\342\367\325\230\324\100\273\140\312\277\253\027\054\011\066\177
\120\372\101\334\256\226\072\012\043\076\211\131\311\243\007\355
\033\067\255\374\174\276\121\111\132\336\072\012\124\010\026\105
\302\231\261\207\315\214\150\340\151\003\351\304\116\230\262\073
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\217\337\002\344\340\161\072\361\264\043\162\240\252\001\337\337
\230\076\024\120\240\061\046\275\050\351\132\060\046\165\371\173
\140\034\215\363\315\120\046\155\004\047\232\337\325\015\105\107
\051\153\054\346\166\331\251\051\175\062\335\311\066\074\275\256
\065\361\021\236\035\273\220\077\022\107\116\216\327\176\017\142
\163\035\122\046\070\034\030\111\375\060\164\232\304\345\042\057
\330\300\215\355\221\172\114\000\217\162\177\135\332\335\033\213
\105\153\347\335\151\227\250\305\126\114\017\014\366\237\172\221
\067\366\227\202\340\335\161\151\377\166\077\140\115\074\317\367
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END
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#

```
Trust for Certificate "UTN DATACorp SGC Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UTN DATACorp SGC Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\021\237\016\022\202\207\352\120\375\331\207\105\157\117\170
\334\372\326\324
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\263\245\076\167\041\155\254\112\300\311\373\325\101\075\312\006
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\223\061\013\060\011\006\003\125\004\006\023\002\125\123
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\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\033\060\031\006\003\125
\004\003\023\022\125\124\116\040\055\040\104\101\124\101\103\157
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "UTN USERFirst Email Root CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "UTN USERFirst Email Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT

MULTILINE\_OCTAL

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\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
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\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\066\060\064\006\003\125
\004\003\023\055\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\103\154\151\145\156\164\040\101\165\164\150\145\156\164
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
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\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153  
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\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116  
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023  
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162  
\164\162\165\163\164\056\143\157\155\061\066\060\064\006\003\125  
\004\003\023\055\125\124\116\055\125\123\105\122\106\151\162\163  
\164\055\103\154\151\145\156\164\040\101\165\164\150\145\156\164  
\151\143\141\164\151\157\156\040\141\156\144\040\105\155\141\151  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\311\211

END

CKA\_VALUE MULTILINE\_OCTAL

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\256\061\013\060\011\006\003\125\004\006\023\002\125\123\061\013  
\060\011\006\003\125\004\010\023\002\125\124\061\027\060\025\006  
\003\125\004\007\023\016\123\141\154\164\040\114\141\153\145\040  
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124  
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164  
\167\157\162\153\061\041\060\037\006\003\125\004\013\023\030\150  
\164\164\160\072\057\057\167\167\167\056\165\163\145\162\164\162  
\165\163\164\056\143\157\155\061\066\060\064\006\003\125\004\003  
\023\055\125\124\116\055\125\123\105\122\106\151\162\163\164\055  
\103\154\151\145\156\164\040\101\165\164\150\145\156\164\151\143  
\141\164\151\157\156\040\141\156\144\040\105\155\141\151\154\060  
\036\027\015\071\071\060\067\060\071\061\067\062\070\065\060\132  
\027\015\061\071\060\067\060\071\061\067\063\066\065\070\132\060  
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\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025  
\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145  
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\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162\164  
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\057\317\312\332\155\252\057\353\254\241\263\152\252\267\056\147  
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\021\131\332\272\207\015\257\372\363\341\302\360\244\305\147\214  
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\125\035\017\004\004\003\002\001\306\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
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\120\110\174\336\075\256\004\156\175\060\130\006\003\125\035\037  
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\151\143\141\164\151\157\156\141\156\144\105\155\141\151\154\056  
\143\162\154\060\035\006\003\125\035\045\004\026\060\024\006\010  
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\000\003\202\001\001\000\261\155\141\135\246\032\177\174\253\112  
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\356\141\125\157\004\076\317\071\336\305\033\111\224\344\353\040  
\114\264\346\236\120\056\162\331\215\365\252\243\263\112\332\126  
\034\140\227\200\334\202\242\255\112\275\212\053\377\013\011\264  
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\222\376\344\257\353\364\046\035\026\052\177\154\060\225\067\057  
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\255\366\237\236\203\223\036\035\102\270\106\257\153\146\360\233  
\177\352\343\003\002\345\002\121\301\252\325\065\235\162\100\003  
\211\272\061\035\305\020\150\122\236\337\242\205\305\134\010\246  
\170\346\123\117\261\350\267\323\024\236\223\246\303\144\343\254  
\176\161\315\274\237\351\003\033\314\373\351\254\061\301\257\174  
\025\164\002\231\303\262\107\246\302\062\141\327\307\157\110\044  
\121\047\241\325\207\125\362\173\217\230\075\026\236\356\165\266  
\370\320\216\362\363\306\256\050\133\247\360\363\066\027\374\303  
\005\323\312\003\112\124

END

#

```

Trust for Certificate "UTN USERFirst Email Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UTN USERFirst Email Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\261\162\261\245\155\225\371\037\345\002\207\341\115\067\352\152
\104\143\166\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\327\064\075\357\035\047\011\050\341\061\002\133\023\053\335\367
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\066\060\064\006\003\125
\004\003\023\055\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\103\154\151\145\156\164\040\101\165\164\150\145\156\164
\151\143\141\164\151\157\156\040\141\156\144\040\105\155\141\151
\154
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\104\276\014\213\120\000\044\264\021\323\066\045\045\147
\311\211
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
# Certificate "UTN USERFirst Hardware Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UTN USERFirst Hardware Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

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\060\201\227\061\013\060\011\006\003\125\004\006\023\002\125\123  
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\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153  
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023  
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116  
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023  
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162  
\164\162\165\163\164\056\143\157\155\061\037\060\035\006\003\125  
\004\003\023\026\125\124\116\055\125\123\105\122\106\151\162\163  
\164\055\110\141\162\144\167\141\162\145

END

CKA\_ID UTF8 "0"

CKA\_ISSUER

MULTILINE\_OCTAL

\060\201\227\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060  
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\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023  
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\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023  
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162  
\164\162\165\163\164\056\143\157\155\061\037\060\035\006\003\125  
\004\003\023\026\125\124\116\055\125\123\105\122\106\151\162\163  
\164\055\110\141\162\144\167\141\162\145

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\104\276\014\213\120\000\044\264\021\323\066\052\376\145  
\012\375

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\164\060\202\003\134\240\003\002\001\002\002\020\104  
\276\014\213\120\000\044\264\021\323\066\052\376\145\012\375\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\227\061\013\060\011\006\003\125\004\006\023\002\125\123\061\013  
\060\011\006\003\125\004\010\023\002\125\124\061\027\060\025\006  
\003\125\004\007\023\016\123\141\154\164\040\114\141\153\145\040  
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124  
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164  
\167\157\162\153\061\041\060\037\006\003\125\004\013\023\030\150  
\164\164\160\072\057\057\167\167\167\056\165\163\145\162\164\162  
\165\163\164\056\143\157\155\061\037\060\035\006\003\125\004\003  
\023\026\125\124\116\055\125\123\105\122\106\151\162\163\164\055  
\110\141\162\144\167\141\162\145\060\036\027\015\071\071\060\067  
\060\071\061\070\061\060\064\062\132\027\015\061\071\060\067\060  
\071\061\070\061\071\062\062\132\060\201\227\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\013\060\011\006\003\125\004  
\010\023\002\125\124\061\027\060\025\006\003\125\004\007\023\016  
\123\141\154\164\040\114\141\153\145\040\103\151\164\171\061\036

\060\034\006\003\125\004\012\023\025\124\150\145\040\125\123\105  
\122\124\122\125\123\124\040\116\145\164\167\157\162\153\061\041  
\060\037\006\003\125\004\013\023\030\150\164\164\160\072\057\057  
\167\167\167\056\165\163\145\162\164\162\165\163\164\056\143\157  
\155\061\037\060\035\006\003\125\004\003\023\026\125\124\116\055  
\125\123\105\122\106\151\162\163\164\055\110\141\162\144\167\141  
\162\145\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\261\367\303\070\077\264\250\177\317\071\202\121\147  
\320\155\237\322\377\130\363\347\237\053\354\015\211\124\231\271  
\070\231\026\367\340\041\171\110\302\273\141\164\022\226\035\074  
\152\162\325\074\020\147\072\071\355\053\023\315\146\353\225\011  
\063\244\154\227\261\350\306\354\301\165\171\234\106\136\215\253  
\320\152\375\271\052\125\027\020\124\263\031\360\232\366\361\261  
\135\266\247\155\373\340\161\027\153\242\210\373\000\337\376\032  
\061\167\014\232\001\172\261\062\343\053\001\007\070\156\303\245  
\136\043\274\105\233\173\120\301\311\060\217\333\345\053\172\323  
\133\373\063\100\036\240\325\230\027\274\213\207\303\211\323\135  
\240\216\262\252\252\366\216\151\210\006\305\372\211\041\363\010  
\235\151\056\011\063\233\051\015\106\017\214\314\111\064\260\151  
\121\275\371\006\315\150\255\146\114\274\076\254\141\275\012\210  
\016\310\337\075\356\174\004\114\235\012\136\153\221\326\356\307  
\355\050\215\253\115\207\211\163\320\156\244\320\036\026\213\024  
\341\166\104\003\177\143\254\344\315\111\234\305\222\364\253\062  
\241\110\133\002\003\001\000\001\243\201\271\060\201\266\060\013  
\006\003\125\035\017\004\004\003\002\001\306\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003  
\125\035\016\004\026\004\024\241\162\137\046\033\050\230\103\225  
\135\007\067\325\205\226\235\113\322\303\105\060\104\006\003\125  
\035\037\004\075\060\073\060\071\240\067\240\065\206\063\150\164  
\164\160\072\057\057\143\162\154\056\165\163\145\162\164\162\165  
\163\164\056\143\157\155\057\125\124\116\055\125\123\105\122\106  
\151\162\163\164\055\110\141\162\144\167\141\162\145\056\143\162  
\154\060\061\006\003\125\035\045\004\052\060\050\006\010\053\006  
\001\005\005\007\003\001\006\010\053\006\001\005\005\007\003\005  
\006\010\053\006\001\005\005\007\003\006\006\010\053\006\001\005  
\005\007\003\007\060\015\006\011\052\206\110\206\367\015\001\001  
\005\005\000\003\202\001\001\000\107\031\017\336\164\306\231\227  
\257\374\255\050\136\165\216\353\055\147\356\116\173\053\327\014  
\377\366\336\313\125\242\012\341\114\124\145\223\140\153\237\022  
\234\255\136\203\054\353\132\256\300\344\055\364\000\143\035\270  
\300\154\362\317\111\273\115\223\157\006\246\012\042\262\111\142  
\010\116\377\310\310\024\262\210\026\135\347\001\344\022\225\345  
\105\064\263\213\151\275\317\264\205\217\165\121\236\175\072\070  
\072\024\110\022\306\373\247\073\032\215\015\202\100\007\350\004  
\010\220\241\211\313\031\120\337\312\034\001\274\035\004\031\173  
\020\166\227\073\356\220\220\312\304\016\037\026\156\165\357\063  
\370\323\157\133\036\226\343\340\164\167\164\173\212\242\156\055

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\335\166\326\071\060\202\360\253\234\122\362\052\307\257\111\136
\176\307\150\345\202\201\310\152\047\371\047\210\052\325\130\120
\225\037\360\073\034\127\273\175\024\071\142\053\232\311\224\222
\052\243\042\014\377\211\046\175\137\043\053\107\327\025\035\251
\152\236\121\015\052\121\236\201\371\324\073\136\160\022\177\020
\062\234\036\273\235\370\146\250
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END

#

```
Trust for Certificate "UTN USERFirst Hardware Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UTN USERFirst Hardware Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\004\203\355\063\231\254\066\010\005\207\042\355\274\136\106\000
\343\276\371\327
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END

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CKA_CERT_MD5_HASH MULTILINE_OCTAL
\114\126\101\345\015\273\053\350\312\243\355\030\010\255\103\071
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END

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CKA_ISSUER MULTILINE_OCTAL
\060\201\227\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\037\060\035\006\003\125
\004\003\023\026\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\110\141\162\144\167\141\162\145
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END

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CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\104\276\014\213\120\000\044\264\021\323\066\052\376\145
\012\375
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END

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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

```
# Certificate "UTN USERFirst Object Root CA"
```

#

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UTN USERFirst Object Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\225\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\035\060\033\006\003\125
\004\003\023\024\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\117\142\152\145\143\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\225\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\035\060\033\006\003\125
\004\003\023\024\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\117\142\152\145\143\164
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\104\276\014\213\120\000\044\264\021\323\066\055\340\263
\137\033
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\146\060\202\003\116\240\003\002\001\002\002\020\104
\276\014\213\120\000\044\264\021\323\066\055\340\263\137\033\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\225\061\013\060\011\006\003\125\004\006\023\002\125\123\061\013
\060\011\006\003\125\004\010\023\002\125\124\061\027\060\025\006
\003\125\004\007\023\016\123\141\154\164\040\114\141\153\145\040
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164
\167\157\162\153\061\041\060\037\006\003\125\004\013\023\030\150
\164\164\160\072\057\057\167\167\167\056\165\163\145\162\164\162
\165\163\164\056\143\157\155\061\035\060\033\006\003\125\004\003
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\023\024\125\124\116\055\125\123\105\122\106\151\162\163\164\055  
\117\142\152\145\143\164\060\036\027\015\071\071\060\067\060\071  
\061\070\063\061\062\060\132\027\015\061\071\060\067\060\071\061  
\070\064\060\063\066\132\060\201\225\061\013\060\011\006\003\125  
\004\006\023\002\125\123\061\013\060\011\006\003\125\004\010\023  
\002\125\124\061\027\060\025\006\003\125\004\007\023\016\123\141  
\154\164\040\114\141\153\145\040\103\151\164\171\061\036\060\034  
\006\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124  
\122\125\123\124\040\116\145\164\167\157\162\153\061\041\060\037  
\006\003\125\004\013\023\030\150\164\164\160\072\057\057\167\167  
\167\056\165\163\145\162\164\162\165\163\164\056\143\157\155\061  
\035\060\033\006\003\125\004\003\023\024\125\124\116\055\125\123  
\105\122\106\151\162\163\164\055\117\142\152\145\143\164\060\202  
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005  
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\316  
\252\201\077\243\243\141\170\252\061\000\125\225\021\236\047\017  
\037\034\337\072\233\202\150\060\300\112\141\035\361\057\016\372  
\276\171\367\245\043\357\125\121\226\204\315\333\343\271\156\076  
\061\330\012\040\147\307\364\331\277\224\353\107\004\076\002\316  
\052\242\135\207\004\011\366\060\235\030\212\227\262\252\034\374  
\101\322\241\066\313\373\075\221\272\347\331\160\065\372\344\347  
\220\303\233\243\233\323\074\365\022\231\167\261\267\011\340\150  
\346\034\270\363\224\143\210\152\152\376\013\166\311\276\364\042  
\344\147\271\253\032\136\167\301\205\007\335\015\154\277\356\006  
\307\167\152\101\236\247\017\327\373\356\224\027\267\374\205\276  
\244\253\304\034\061\335\327\266\321\344\360\357\337\026\217\262  
\122\223\327\241\324\211\241\007\056\277\341\001\022\102\036\032  
\341\330\225\064\333\144\171\050\377\272\056\021\302\345\350\133  
\222\110\373\107\013\302\154\332\255\062\203\101\363\245\345\101  
\160\375\145\220\155\372\372\121\304\371\275\226\053\031\004\054  
\323\155\247\334\360\177\157\203\145\342\152\253\207\206\165\002  
\003\001\000\001\243\201\257\060\201\254\060\013\006\003\125\035  
\017\004\004\003\002\001\306\060\017\006\003\125\035\023\001\001  
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004  
\026\004\024\332\355\144\164\024\234\024\074\253\335\231\251\275  
\133\050\115\213\074\311\330\060\102\006\003\125\035\037\004\073  
\060\071\060\067\240\065\240\063\206\061\150\164\164\160\072\057  
\057\143\162\154\056\165\163\145\162\164\162\165\163\164\056\143  
\157\155\057\125\124\116\055\125\123\105\122\106\151\162\163\164  
\055\117\142\152\145\143\164\056\143\162\154\060\051\006\003\125  
\035\045\004\042\060\040\006\010\053\006\001\005\005\007\003\003  
\006\010\053\006\001\005\005\007\003\010\006\012\053\006\001\004  
\001\202\067\012\003\004\060\015\006\011\052\206\110\206\367\015  
\001\001\005\005\000\003\202\001\001\000\010\037\122\261\067\104  
\170\333\375\316\271\332\225\226\230\252\125\144\200\265\132\100  
\335\041\245\305\301\363\137\054\114\310\107\132\151\352\350\360  
\065\065\364\320\045\363\310\246\244\207\112\275\033\261\163\010  
\275\324\303\312\266\065\273\131\206\167\061\315\247\200\024\256



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\023\357\374\261\110\371\153\045\045\055\121\266\054\155\105\301
\230\310\212\126\135\076\356\103\116\076\153\047\216\320\072\113
\205\013\137\323\355\152\247\165\313\321\132\207\057\071\165\023
\132\162\260\002\201\237\276\360\017\204\124\040\142\154\151\324
\341\115\306\015\231\103\001\015\022\226\214\170\235\277\120\242
\261\104\252\152\317\027\172\317\157\017\324\370\044\125\137\360
\064\026\111\146\076\120\106\311\143\161\070\061\142\270\142\271
\363\123\255\154\265\053\242\022\252\031\117\011\332\136\347\223
\306\216\024\010\376\360\060\200\030\240\206\205\115\310\175\327
\213\003\376\156\325\367\235\026\254\222\054\240\043\345\234\221
\122\037\224\337\027\224\163\303\263\301\301\161\005\040\000\170
\275\023\122\035\250\076\315\000\037\310
END
```

#

```
Trust for Certificate "UTN USERFirst Object Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UTN USERFirst Object Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\341\055\373\113\101\327\331\303\053\060\121\113\254\035\201\330
\070\136\055\106
END
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```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\247\362\344\026\006\101\021\120\060\153\234\343\264\234\260\311
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\225\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\013\060\011\006\003\125\004\010\023\002\125\124\061\027\060
\025\006\003\125\004\007\023\016\123\141\154\164\040\114\141\153
\145\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\041\060\037\006\003\125\004\013\023
\030\150\164\164\160\072\057\057\167\167\167\056\165\163\145\162
\164\162\165\163\164\056\143\157\155\061\035\060\033\006\003\125
\004\003\023\024\125\124\116\055\125\123\105\122\106\151\162\163
\164\055\117\142\152\145\143\164
END
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```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\104\276\014\213\120\000\044\264\021\323\066\055\340\263
\137\033
END
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```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Camerfirma Chambers of Commerce Root"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Camerfirma Chambers of Commerce Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061  
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101  
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004  
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150  
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060  
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163  
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157  
\164

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061  
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155  
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101  
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004  
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150  
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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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CKA\_VALUE MULTILINE\_OCTAL

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\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070  
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013  
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141  
\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060\040

\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163\040  
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\060\036\027\015\060\063\060\071\063\060\061\066\061\063\064\063  
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\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061  
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155  
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\216\065\135\001\014\043\004\107\065\252\233\140\116\240\146\075  
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\151\055\130\030\217\355\231\236\361\256\342\225\346\366\107\250  
\326\014\017\260\130\130\333\303\146\067\236\233\221\124\063\067  
\322\224\034\152\110\311\311\362\245\332\245\014\043\367\043\016  
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\132\336\312\100\067\147\014\124\041\125\167\332\012\014\314\227  
\256\200\334\224\066\112\364\076\316\066\023\036\123\344\254\116  
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\145\162\163\151\147\156\056\157\162\147\060\047\006\003\125\035  
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\003\261\357\023\371\041\137\004\234\332\311\245\215\047\154\226
\207\221\276\101\220\001\162\223\347\036\175\137\366\211\306\135
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\373\303\057\314\272\013\337\077\167\173\106\175\072\022\044\216
\226\217\074\005\012\157\322\224\050\035\155\014\300\056\210\042
\325\330\317\035\023\307\360\110\327\327\005\247\317\307\107\236
\073\074\064\310\200\117\324\024\273\374\015\120\367\372\263\354
\102\137\251\335\155\310\364\165\317\173\301\162\046\261\001\034
\134\054\375\172\116\264\001\305\005\127\271\347\074\252\005\331
\210\351\007\106\101\316\357\101\201\256\130\337\203\242\256\312
\327\167\037\347\000\074\235\157\216\344\062\011\035\115\170\064
\170\064\074\224\233\046\355\117\161\306\031\172\275\040\042\110
\132\376\113\175\003\267\347\130\276\306\062\116\164\036\150\335
\250\150\133\263\076\356\142\175\331\200\350\012\165\172\267\356
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END
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Trust for Certificate "Camerfirma Chambers of Commerce Root"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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\060\141\360\261
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\260\001\356\024\331\257\051\030\224\166\216\361\151\063\052\204
END
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
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END
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MULTILINE_OCTAL
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
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```
#
# Certificate "Camerfirma Global Chambersign Root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Global Chambersign Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\175\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\040\060
\036\006\003\125\004\003\023\027\107\154\157\142\141\154\040\103
\150\141\155\142\145\162\163\151\147\156\040\122\157\157\164
END
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UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
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\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\040\060
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END
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\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047\060  
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\013\373\032\311\304\215\003\251\176\134\362\120\253\022\245\241  
\317\110\120\245\357\322\310\032\023\372\260\177\261\202\034\167  
\152\017\137\334\013\225\217\357\103\176\346\105\011\045\002\001  
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\145\162\163\151\147\156\056\157\162\147\057\143\150\141\155\142  
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\115\306\316\137\255\020\253\345\003\245\372\251\024\060\016\006  
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\257\044\031\126\002\002\262\272\017\024\352\306\212\146\301\206
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\211\327\376\257\377\150\365\245\027\220\275\254\231\314\245\206
\127\011\147\106\333\326\026\302\106\361\344\251\120\365\217\321
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\045\310\062\370\040\021\315\175\062\063\110\224\124\114\335\334
\171\304\060\237\353\216\270\125\265\327\210\134\305\152\044\075
\262\323\005\003\121\306\007\357\314\024\162\164\075\156\162\316
\030\050\214\112\240\167\345\011\053\105\104\107\254\267\147\177
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END

#

Trust for Certificate "Camerfirma Global Chambersign Root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Camerfirma Global Chambersign Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\063\233\153\024\120\044\233\125\172\001\207\162\204\331\340\057
\303\322\330\351
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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END

CKA\_ISSUER MULTILINE\_OCTAL

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\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
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\141\155\142\145\162\163\151\147\156\056\157\162\147\061\040\060
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CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "NetLock Qualified (Class QA) Root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Qualified (Class QA) Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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\060\201\311\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160
\145\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145
\164\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172
\164\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030
\006\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141
\156\171\153\151\141\144\157\153\061\102\060\100\006\003\125\004
\003\023\071\116\145\164\114\157\143\153\040\115\151\156\157\163
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CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Qualified (Class QA) Root"
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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED

CK\_BBOOL CK\_FALSE

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# Certificate "NetLock Notary (Class A) Root"

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CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NetLock Notary (Class A) Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

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\114\157\143\153\040\113\146\164\056\040\101\154\164\141\154\141  
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\056\156\145\164\154\157\143\153\056\156\145\164\057\144\157\143  
\163\040\143\151\155\145\156\040\166\141\147\171\040\153\145\162  
\150\145\164\157\040\141\172\040\145\154\154\145\156\157\162\172  
\145\163\100\156\145\164\154\157\143\153\056\156\145\164\040\145  
\055\155\141\151\154\040\143\151\155\145\156\056\040\111\115\120  
\117\122\124\101\116\124\041\040\124\150\145\040\151\163\163\165  
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\120\123\040\141\166\141\151\154\141\142\154\145\040\141\164\040

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\157\143\153\056\156\145\164\057\144\157\143\163\040\157\162\040
\142\171\040\145\055\155\141\151\154\040\141\164\040\143\160\163
\100\156\145\164\154\157\143\153\056\156\145\164\056\060\015\006
\011\052\206\110\206\367\015\001\001\004\005\000\003\202\001\001
\000\110\044\106\367\272\126\157\372\310\050\003\100\116\345\061
\071\153\046\153\123\177\333\337\337\363\161\075\046\300\024\016
\306\147\173\043\250\014\163\335\001\273\306\312\156\067\071\125
\325\307\214\126\040\016\050\012\016\322\052\244\260\111\122\306
\070\007\376\276\012\011\214\321\230\317\312\332\024\061\241\117
\322\071\374\017\021\054\103\303\335\253\223\307\125\076\107\174
\030\032\000\334\363\173\330\362\177\122\154\040\364\013\137\151
\122\364\356\370\262\051\140\353\343\111\061\041\015\326\265\020
\101\342\101\011\154\342\032\232\126\113\167\002\366\240\233\232
\047\207\350\125\051\161\302\220\237\105\170\032\341\025\144\075
\320\016\330\240\166\237\256\305\320\056\352\326\017\126\354\144
\177\132\233\024\130\001\047\176\023\120\307\153\052\346\150\074
\277\134\240\012\033\341\016\172\351\342\200\303\351\351\366\375
\154\021\236\320\345\050\047\053\124\062\102\024\202\165\346\112
\360\053\146\165\143\214\242\373\004\076\203\016\233\066\360\030
\344\046\040\303\214\360\050\007\255\074\027\146\210\265\375\266
\210
END
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#

```
Trust for Certificate "NetLock Notary (Class A) Root"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Notary (Class A) Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\254\355\137\145\123\375\045\316\001\137\037\172\110\073\152\164
\237\141\170\306
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\206\070\155\136\111\143\154\205\134\333\155\334\224\267\320\367
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\257\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\020\060\016\006\003\125\004\010\023\007\110\165\156\147\141
\162\171\061\021\060\017\006\003\125\004\007\023\010\102\165\144
\141\160\145\163\164\061\047\060\045\006\003\125\004\012\023\036
\116\145\164\114\157\143\153\040\110\141\154\157\172\141\164\142
\151\172\164\157\156\163\141\147\151\040\113\146\164\056\061\032
\060\030\006\003\125\004\013\023\021\124\141\156\165\163\151\164
\166\141\156\171\153\151\141\144\157\153\061\066\060\064\006\003
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\125\004\003\023\055\116\145\164\114\157\143\153\040\113\157\172
\152\145\147\171\172\157\151\040\050\103\154\141\163\163\040\101
\051\040\124\141\156\165\163\151\164\166\141\156\171\153\151\141
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\002\001\003
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END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "NetLock Business (Class B) Root"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NetLock Business (Class B) Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\201\231\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160
\145\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145
\164\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172
\164\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030
\006\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141
\156\171\153\151\141\144\157\153\061\062\060\060\006\003\125\004
\003\023\051\116\145\164\114\157\143\153\040\125\172\154\145\164
\151\040\050\103\154\141\163\163\040\102\051\040\124\141\156\165
\163\151\164\166\141\156\171\153\151\141\144\157
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
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\164\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030
\006\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141
\156\171\153\151\141\144\157\153\061\062\060\060\006\003\125\004
\003\023\051\116\145\164\114\157\143\153\040\125\172\154\145\164
\151\040\050\103\154\141\163\163\040\102\051\040\124\141\156\165
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\001\151

END

CKA\_VALUE MULTILINE\_OCTAL

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\201\231\061\013\060\011\006\003\125\004\006\023\002\110\125\061  
\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160\145  
\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145\164  
\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172\164  
\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030\006  
\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141\156  
\171\153\151\141\144\157\153\061\062\060\060\006\003\125\004\003  
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\151\164\166\141\156\171\153\151\141\144\157\060\036\027\015\071  
\071\060\062\062\065\061\064\061\060\062\062\132\027\015\061\071  
\060\062\062\060\061\064\061\060\062\062\132\060\201\231\061\013  
\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017\006  
\003\125\004\007\023\010\102\165\144\141\160\145\163\164\061\047  
\060\045\006\003\125\004\012\023\036\116\145\164\114\157\143\153  
\040\110\141\154\157\172\141\164\142\151\172\164\157\156\163\141  
\147\151\040\113\146\164\056\061\032\060\030\006\003\125\004\013  
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\156\145\164\154\157\143\153\056\156\145\164\056\060\015\006\011  
\052\206\110\206\367\015\001\001\004\005\000\003\201\201\000\004  
\333\256\214\027\257\370\016\220\061\116\315\076\011\300\155\072  
\260\370\063\114\107\114\343\165\210\020\227\254\260\070\025\221  
\306\051\226\314\041\300\155\074\245\164\317\330\202\245\071\303  
\145\343\102\160\273\042\220\343\175\333\065\166\341\240\265\332  
\237\160\156\223\032\060\071\035\060\333\056\343\174\262\221\262  
\321\067\051\372\271\326\027\134\107\117\343\035\070\353\237\325  
\173\225\250\050\236\025\112\321\321\320\053\000\227\240\342\222  
\066\053\143\254\130\001\153\063\051\120\206\203\361\001\110

END

#

Trust for Certificate "NetLock Business (Class B) Root"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE

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CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Business (Class B) Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\207\237\113\356\005\337\230\130\073\343\140\326\063\347\015\077
\376\230\161\257
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\071\026\252\271\152\101\341\024\151\337\236\154\073\162\334\266
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\231\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160
\145\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145
\164\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172
\164\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030
\006\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141
\156\171\153\151\141\144\157\153\061\062\060\060\006\003\125\004
\003\023\051\116\145\164\114\157\143\153\040\125\172\154\145\164
\151\040\050\103\154\141\163\163\040\102\051\040\124\141\156\165
\163\151\164\166\141\156\171\153\151\141\144\157
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\151
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "NetLock Express (Class C) Root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE
CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Express (Class C) Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\233\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160
\145\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145
\164\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172
\164\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030
\006\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141

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\156\171\153\151\141\144\157\153\061\064\060\062\006\003\125\004  
\003\023\053\116\145\164\114\157\143\153\040\105\170\160\162\145  
\163\163\172\040\050\103\154\141\163\163\040\103\051\040\124\141  
\156\165\163\151\164\166\141\156\171\153\151\141\144\157

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\233\061\013\060\011\006\003\125\004\006\023\002\110\125  
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\145\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145  
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\156\171\153\151\141\144\157\153\061\064\060\062\006\003\125\004  
\003\023\053\116\145\164\114\157\143\153\040\105\170\160\162\145  
\163\163\172\040\050\103\154\141\163\163\040\103\051\040\124\141  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\150

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\117\060\202\004\270\240\003\002\001\002\002\001\150  
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\201\233\061\013\060\011\006\003\125\004\006\023\002\110\125\061  
\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160\145  
\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145\164  
\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172\164  
\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030\006  
\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141\156  
\171\153\151\141\144\157\153\061\064\060\062\006\003\125\004\003  
\023\053\116\145\164\114\157\143\153\040\105\170\160\162\145\163  
\163\172\040\050\103\154\141\163\163\040\103\051\040\124\141\156  
\165\163\151\164\166\141\156\171\153\151\141\144\157\060\036\027  
\015\071\071\060\062\062\065\061\064\060\070\061\061\132\027\015  
\061\071\060\062\062\060\061\064\060\070\061\061\132\060\201\233  
\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021\060  
\017\006\003\125\004\007\023\010\102\165\144\141\160\145\163\164  
\061\047\060\045\006\003\125\004\012\023\036\116\145\164\114\157  
\143\153\040\110\141\154\157\172\141\164\142\151\172\164\157\156  
\163\141\147\151\040\113\146\164\056\061\032\060\030\006\003\125  
\004\013\023\021\124\141\156\165\163\151\164\166\141\156\171\153  
\151\141\144\157\153\061\064\060\062\006\003\125\004\003\023\053  
\116\145\164\114\157\143\153\040\105\170\160\162\145\163\163\172  
\040\050\103\154\141\163\163\040\103\051\040\124\141\156\165\163  
\151\164\166\141\156\171\153\151\141\144\157\060\201\237\060\015  
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\000\060\201\211\002\201\201\000\353\354\260\154\141\212\043\045  
\257\140\040\343\331\237\374\223\013\333\135\215\260\241\263\100  
\072\202\316\375\165\340\170\062\003\206\132\206\225\221\355\123  
\372\235\100\374\346\350\335\331\133\172\003\275\135\363\073\014  
\303\121\171\233\255\125\240\351\320\003\020\257\012\272\024\102  
\331\122\046\021\042\307\322\040\314\202\244\232\251\376\270\201  
\166\235\152\267\322\066\165\076\261\206\011\366\156\155\176\116  
\267\172\354\256\161\204\366\004\063\010\045\062\353\164\254\026  
\104\306\344\100\223\035\177\255\002\003\001\000\001\243\202\002  
\237\060\202\002\233\060\022\006\003\125\035\023\001\001\377\004  
\010\060\006\001\001\377\002\001\004\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\000\006\060\021\006\011\140\206\110  
\001\206\370\102\001\001\004\004\003\002\000\007\060\202\002\140  
\006\011\140\206\110\001\206\370\102\001\015\004\202\002\121\026  
\202\002\115\106\111\107\131\105\114\105\115\041\040\105\172\145  
\156\040\164\141\156\165\163\151\164\166\141\156\171\040\141\040  
\116\145\164\114\157\143\153\040\113\146\164\056\040\101\154\164  
\141\154\141\156\157\163\040\123\172\157\154\147\141\154\164\141  
\164\141\163\151\040\106\145\154\164\145\164\145\154\145\151\142  
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\040\144\151\147\151\164\141\154\151\163\040\141\154\141\151\162  
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\164\056\040\111\156\164\145\162\156\145\164\040\150\157\156\154  
\141\160\152\141\156\040\141\040\150\164\164\160\163\072\057\057  
\167\167\167\056\156\145\164\154\157\143\153\056\156\145\164\057  
\144\157\143\163\040\143\151\155\145\156\040\166\141\147\171\040  
\153\145\162\150\145\164\157\040\141\172\040\145\154\154\145\156  
\157\162\172\145\163\100\156\145\164\154\157\143\153\056\156\145  
\164\040\145\055\155\141\151\154\040\143\151\155\145\156\056\040  
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\163\163\165\141\156\143\145\040\141\156\144\040\164\150\145\040  
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\151\146\151\143\141\164\145\040\151\163\040\163\165\142\152\145  
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\153\040\103\120\123\040\141\166\141\151\154\141\142\154\145\040  
\141\164\040\150\164\164\160\163\072\057\057\167\167\167\056\156

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\145\164\154\157\143\153\056\156\145\164\057\144\157\143\163\040
\157\162\040\142\171\040\145\055\155\141\151\154\040\141\164\040
\143\160\163\100\156\145\164\154\157\143\153\056\156\145\164\056
\060\015\006\011\052\206\110\206\367\015\001\001\004\005\000\003
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\265\255\324\315\263\066\304\226\110\301\134\315\232\331\005\056
\237\276\120\353\364\046\024\020\055\324\146\027\370\236\301\047
\375\361\355\344\173\113\240\154\265\253\232\127\160\246\355\240
\244\355\056\365\375\374\275\376\115\067\010\014\274\343\226\203
\042\365\111\033\177\113\053\264\124\301\200\174\231\116\035\320
\214\356\320\254\345\222\372\165\126\376\144\240\023\217\270\270
\026\235\141\005\147\200\310\320\330\245\007\002\064\230\004\215
\063\004\324
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END

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Trust for Certificate "NetLock Express (Class C) Root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "NetLock Express (Class C) Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\343\222\121\057\012\317\365\005\337\366\336\006\177\165\067\341
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\145\352\127\113
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\117\353\361\360\160\302\200\143\135\130\237\332\022\074\251\304
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END

CKA\_ISSUER MULTILINE\_OCTAL

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\060\201\233\061\013\060\011\006\003\125\004\006\023\002\110\125
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\061\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160
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\145\163\164\061\047\060\045\006\003\125\004\012\023\036\116\145
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\164\114\157\143\153\040\110\141\154\157\172\141\164\142\151\172
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\164\157\156\163\141\147\151\040\113\146\164\056\061\032\060\030
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\006\003\125\004\013\023\021\124\141\156\165\163\151\164\166\141
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\156\171\153\151\141\144\157\153\061\064\060\062\006\003\125\004
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\003\023\053\116\145\164\114\157\143\153\040\105\170\160\162\145
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\163\163\172\040\050\103\154\141\163\163\040\103\051\040\124\141
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\156\165\163\151\164\166\141\156\171\153\151\141\144\157
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\001\150
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "XRamp Global CA Root"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "XRamp Global CA Root"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123  
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\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155  
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160  
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143  
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023  
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217  
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END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\020\120  
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\202\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036  
\060\034\006\003\125\004\013\023\025\167\167\167\056\170\162\141  
\155\160\163\145\143\165\162\151\164\171\056\143\157\155\061\044  
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\145\143\165\162\151\164\171\040\123\145\162\166\151\143\145\163  
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\122\141\155\160\040\107\154\157\142\141\154\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
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\064\060\064\132\027\015\063\065\060\061\060\061\060\065\063\067  
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\167\056\170\162\141\155\160\163\145\143\165\162\151\164\171\056  
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\060\202\001\012\002\202\001\001\000\230\044\036\275\025\264\272  
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\255\037\256\340\006\026\342\233\133\331\147\164\153\135\200\217  
\051\235\206\033\331\234\015\230\155\166\020\050\130\344\145\260  
\177\112\230\171\237\340\303\061\176\200\053\265\214\300\100\073  
\021\206\320\313\242\206\066\140\244\325\060\202\155\331\156\320  
\017\022\004\063\227\137\117\141\132\360\344\371\221\253\347\035  
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\250\101\314\074\224\021\175\353\310\246\214\267\206\313\312\063  
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\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
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\140\133\241\332\115\227\142\371\044\123\047\327\202\144\116\220  
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\144\236\347\053\344\034\221\054\322\271\316\175\316\157\061\231
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\213\251\261\344\357\232\032\320\075\151\231\356\250\050\243\341
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\072\265\251\215\362\064\231\304\324\020\341\006\375\011\204\020
\073\356\304\114\364\354\047\174\102\302\164\174\202\212\011\311
\264\003\045\274
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END

#

Trust for Certificate "XRamp Global CA Root"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "XRamp Global CA Root"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\270\001\206\321\353\234\206\245\101\004\317\060\124\363\114\122
\267\345\130\306
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\241\013\104\263\312\020\330\000\156\235\017\330\017\222\012\321
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END

CKA\_ISSUER MULTILINE\_OCTAL

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\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
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\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
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\157\162\151\164\171
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Go Daddy Class 2 CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE

CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Go Daddy Class 2 CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
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\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040  
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157  
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156  
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040  
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145  
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150  
\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\000

END

CKA\_VALUE MULTILINE\_OCTAL

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\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041  
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\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156\143  
\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040\104  
\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\060\036\027\015\060\064\060\066\062\071\061\067  
\060\066\062\060\132\027\015\063\064\060\066\062\071\061\067\060  
\066\062\060\132\060\143\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\041\060\037\006\003\125\004\012\023\030\124\150

\145\040\107\157\040\104\141\144\144\171\040\107\162\157\165\160  
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\050\107\157\040\104\141\144\144\171\040\103\154\141\163\163\040  
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\202\001\040\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\015  
\000\060\202\001\010\002\202\001\001\000\336\235\327\352\127\030  
\111\241\133\353\327\137\110\206\352\276\335\377\344\357\147\034  
\364\145\150\263\127\161\240\136\167\273\355\233\111\351\160\200  
\075\126\030\143\010\157\332\362\314\320\077\177\002\124\042\124  
\020\330\262\201\324\300\165\075\113\177\307\167\303\076\170\253  
\032\003\265\040\153\057\152\053\261\305\210\176\304\273\036\260  
\301\330\105\047\157\252\067\130\367\207\046\327\330\055\366\251  
\027\267\037\162\066\116\246\027\077\145\230\222\333\052\156\135  
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\022\242\023\055\330\216\257\137\022\075\240\010\005\010\266\134  
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\230\274\261\007\147\242\025\015\335\240\130\306\104\173\012\076  
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\265\151\220\217\204\164\352\227\033\257\002\001\003\243\201\300  
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\260\322\221\324\114\021\161\263\141\313\075\241\376\335\250\152  
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\006\003\125\004\013\023\050\107\157\040\104\141\144\144\171\040  
\103\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202  
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\202\001\001\000\062\113\363\262\312\076\221\374\022\306\241\007  
\214\216\167\240\063\006\024\134\220\036\030\367\010\246\075\012  
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\070\356\314\034\001\243\035\224\050\244\061\366\172\304\124\327  
\366\345\061\130\003\242\314\316\142\333\224\105\163\265\277\105  
\311\044\265\325\202\002\255\043\171\151\215\270\266\115\316\317  
\114\312\063\043\350\034\210\252\235\213\101\156\026\311\040\345  
\211\236\315\073\332\160\367\176\231\046\040\024\124\045\253\156  
\163\205\346\233\041\235\012\154\202\016\250\370\302\014\372\020  
\036\154\226\357\207\015\304\017\141\213\255\356\203\053\225\370  
\216\222\204\162\071\353\040\352\203\355\203\315\227\156\010\274  
\353\116\046\266\163\053\344\323\366\114\376\046\161\342\141\021

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\164\112\377\127\032\207\017\165\110\056\317\121\151\027\240\002
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\236\012\325\225\142\232\015\317\210\202\305\062\014\344\053\237
\105\346\015\237\050\234\261\271\052\132\127\255\067\017\257\035
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Trust for Certificate "Go Daddy Class 2 CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Class 2 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\047\226\272\346\077\030\001\342\167\046\033\240\327\167\160\002
\217\040\356\344
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\221\336\006\045\253\332\375\062\027\014\273\045\027\052\204\147
END
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CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
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CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\000
END
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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Starfield Class 2 CA"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
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CKA\_SUBJECT MULTILINE\_OCTAL

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\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163  
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163  
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CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\101\165\164\150\157\162\151\164\171\060\036\027\015\060\064\060  
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\062\071\061\067\063\071\061\066\132\060\150\061\013\060\011\006  
\003\125\004\006\023\002\125\123\061\045\060\043\006\003\125\004  
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143  
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061  
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\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\202\001\040\060\015\006\011\052\206\110\206\367  
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\236\350\137\354\345\047\104\365\050\246\077\173\336\340\052\360  
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\325\156\023\065\043\136\337\233\137\075\357\326\367\166\302\352  
\076\273\170\015\034\102\147\153\004\330\370\326\332\157\213\362  
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\003\125\035\043\004\201\212\060\201\207\200\024\277\137\267\321  
\316\335\037\206\364\133\125\254\334\327\020\302\016\251\210\347  
\241\154\244\152\060\150\061\013\060\011\006\003\125\004\006\023  
\002\125\123\061\045\060\043\006\003\125\004\012\023\034\123\164  
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\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202\001  
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\363\131\332\233\001\207\032\117\127\251\241\171\011\052\333\367  
\057\262\036\314\307\136\152\330\203\207\241\227\357\111\065\076  
\167\006\101\130\142\277\216\130\270\012\147\077\354\263\335\041  
\146\037\311\124\372\162\314\075\114\100\330\201\257\167\236\203  
\172\273\242\307\365\064\027\216\331\021\100\364\374\054\052\115  
\025\177\247\142\135\056\045\323\000\013\040\032\035\150\371\027  
\270\364\275\213\355\050\131\335\115\026\213\027\203\310\262\145  
\307\055\172\245\252\274\123\206\155\335\127\244\312\370\040\101  
\013\150\360\364\373\164\276\126\135\172\171\365\371\035\205\343  
\055\225\276\365\161\220\103\314\215\037\232\000\012\207\051\351  
\125\042\130\000\043\352\343\022\103\051\133\107\010\335\214\101  
\152\145\006\250\345\041\252\101\264\225\041\225\271\175\321\064  
\253\023\326\255\274\334\342\075\071\315\275\076\165\160\241\030  
\131\003\311\042\264\217\234\325\136\052\327\245\266\324\012\155  
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END

#

Trust for Certificate

"Starfield Class 2 CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

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CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\255\176\034\050\260\144\357\217\140\003\100\040\024\303\320\343
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END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
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END
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\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "StartCom Certification Authority"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "StartCom Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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\026\060\024\006\003\125\004\012\023\015\123\164\141\162\164\103
\157\155\040\114\164\144\056\061\053\060\051\006\003\125\004\013
\023\042\123\145\143\165\162\145\040\104\151\147\151\164\141\154
\040\103\145\162\164\151\146\151\143\141\164\145\040\123\151\147
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CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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END

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\061\013\060\011\006\003\125\004\006\023\002\111\114\061\026\060  
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\123\145\143\165\162\145\040\104\151\147\151\164\141\154\040\103  
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Trust for Certificate "StartCom Certification Authority"
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CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "StartCom Certification
Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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END
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\157\155\040\114\164\144\056\061\053\060\051\006\003\125\004\013
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
# Certificate "Taiwan GRCA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Taiwan GRCA"
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Trust for Certificate "Taiwan GRCA"
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CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Taiwan GRCA"
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\210\053\100\271
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\067\205\104\123\062\105\037\040\360\363\225\341\045\304\103\116
END
CKA_ISSUER MULTILINE_OCTAL
\060\077\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\060\060\056\006\003\125\004\012\014\047\107\157\166\145\162\156
\155\145\156\164\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\037\235\131\132\327\057\302\006\104\245\200\010\151\343
\136\366
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "Firmaprofesional Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL
```

```
UTF8 "Firmaprofesional Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\235\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\042\060\040\006\003\125\004\007\023\031\103\057\040\115\165
\156\164\141\156\145\162\040\062\064\064\040\102\141\162\143\145
\154\157\156\141\061\102\060\100\006\003\125\004\003\023\071\101
\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162\164
\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141\160
\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040\101
\066\062\066\063\064\060\066\070\061\046\060\044\006\011\052\206
\110\206\367\015\001\011\001\026\027\143\141\100\146\151\162\155
\141\160\162\157\146\145\163\151\157\156\141\154\056\143\157\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\235\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\042\060\040\006\003\125\004\007\023\031\103\057\040\115\165
\156\164\141\156\145\162\040\062\064\064\040\102\141\162\143\145
\154\157\156\141\061\102\060\100\006\003\125\004\003\023\071\101
\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162\164
\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141\160
\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040\101
\066\062\066\063\064\060\066\070\061\046\060\044\006\011\052\206
\110\206\367\015\001\011\001\026\027\143\141\100\146\151\162\155
\141\160\162\157\146\145\163\151\157\156\141\154\056\143\157\155
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\127\060\202\003\077\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\235\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\042\060\040\006\003\125\004\007\023\031\103\057\040\115\165\156
\164\141\156\145\162\040\062\064\064\040\102\141\162\143\145\154
\157\156\141\061\102\060\100\006\003\125\004\003\023\071\101\165
\164\157\162\151\144\141\144\040\144\145\040\103\145\162\164\151
\146\151\143\141\143\151\157\156\040\106\151\162\155\141\160\162
\157\146\145\163\151\157\156\141\154\040\103\111\106\040\101\066
\062\066\063\064\060\066\070\061\046\060\044\006\011\052\206\110
\206\367\015\001\011\001\026\027\143\141\100\146\151\162\155\141
\160\162\157\146\145\163\151\157\156\141\154\056\143\157\155\060
\036\027\015\060\061\061\060\062\064\062\062\060\060\060\060\132
\027\015\061\063\061\060\062\064\062\062\060\060\060\060\132\060
\201\235\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\042\060\040\006\003\125\004\007\023\031\103\057\040\115\165\156
```

\164\141\156\145\162\040\062\064\064\040\102\141\162\143\145\154  
\157\156\141\061\102\060\100\006\003\125\004\003\023\071\101\165  
\164\157\162\151\144\141\144\040\144\145\040\103\145\162\164\151  
\146\151\143\141\143\151\157\156\040\106\151\162\155\141\160\162  
\157\146\145\163\151\157\156\141\154\040\103\111\106\040\101\066  
\062\066\063\064\060\066\070\061\046\060\044\006\011\052\206\110  
\206\367\015\001\011\001\026\027\143\141\100\146\151\162\155\141  
\160\162\157\146\145\163\151\157\156\141\154\056\143\157\155\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\347\043\003\157\157\043\245\136\170\316\225\054\355\224\036\156  
\012\236\001\307\352\060\321\054\235\335\067\350\233\230\171\126  
\323\374\163\337\320\212\336\125\217\121\371\132\352\336\265\160  
\304\355\244\355\377\243\015\156\017\144\120\061\257\001\047\130  
\256\376\154\247\112\057\027\055\323\163\325\023\034\217\131\245  
\064\054\035\124\004\105\315\150\270\240\300\003\245\317\205\102  
\107\225\050\133\317\357\200\154\340\220\227\212\001\074\035\363  
\207\020\060\046\110\175\327\374\351\235\221\161\377\101\232\251  
\100\265\067\234\051\040\117\037\122\343\240\175\023\155\124\267  
\012\336\351\152\116\007\254\254\031\137\334\176\142\164\366\262  
\005\000\272\205\240\375\035\070\156\313\132\273\206\274\224\147  
\063\065\203\054\037\043\315\370\310\221\161\314\227\213\357\256  
\017\334\051\003\033\300\071\353\160\355\301\156\016\330\147\013  
\211\251\274\065\344\357\266\064\264\245\266\304\055\245\276\320  
\303\224\044\110\333\337\226\323\000\265\146\032\213\146\005\017  
\335\077\077\313\077\252\136\232\112\370\264\112\357\225\067\033  
\002\003\001\000\001\243\201\237\060\201\234\060\052\006\003\125  
\035\021\004\043\060\041\206\037\150\164\164\160\072\057\057\167  
\167\167\056\146\151\162\155\141\160\162\157\146\145\163\151\157  
\156\141\154\056\143\157\155\060\022\006\003\125\035\023\001\001  
\377\004\010\060\006\001\001\377\002\001\001\060\053\006\003\125  
\035\020\004\044\060\042\200\017\062\060\060\061\061\060\062\064  
\062\062\060\060\060\060\132\201\017\062\060\061\063\061\060\062  
\064\062\062\060\060\060\060\132\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004  
\026\004\024\063\013\240\146\321\352\332\316\336\142\223\004\050  
\122\265\024\177\070\150\267\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\107\163\376\215\047  
\124\360\365\324\167\234\047\171\127\127\267\025\126\354\307\330  
\130\267\001\002\364\063\355\223\120\210\236\174\106\261\275\077  
\024\157\361\263\107\110\213\214\227\006\327\352\176\243\134\052  
\273\115\057\107\342\370\071\006\311\234\056\061\032\003\170\364  
\274\070\306\042\213\063\061\360\026\004\004\175\371\166\344\113  
\327\300\346\203\354\131\314\077\336\377\117\153\267\147\176\246  
\206\201\062\043\003\235\310\367\137\301\112\140\245\222\251\261  
\244\240\140\303\170\207\263\042\363\052\353\133\251\355\005\253  
\067\017\261\342\323\225\166\143\126\164\214\130\162\033\067\345  
\144\241\276\115\014\223\230\014\227\366\207\155\263\077\347\313



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\200\246\355\210\307\137\120\142\002\350\231\164\026\320\346\264
\071\361\047\313\310\100\326\343\206\020\251\043\022\222\340\151
\101\143\247\257\045\013\300\305\222\313\036\230\243\132\272\305
\063\017\240\227\001\335\177\340\173\326\006\124\317\241\342\115
\070\353\113\120\265\313\046\364\312\332\160\112\152\241\342\171
\252\341\247\063\366\375\112\037\366\331\140
```

END

#

Trust for Certificate "Firmaprofesional Root CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Firmaprofesional Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\251\142\217\113\230\251\033\110\065\272\322\301\106\062\206\273
\146\144\152\214
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\021\222\171\100\074\261\203\100\345\253\146\112\147\222\200\337
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\235\061\013\060\011\006\003\125\004\006\023\002\105\123
\061\042\060\040\006\003\125\004\007\023\031\103\057\040\115\165
\156\164\141\156\145\162\040\062\064\064\040\102\141\162\143\145
\154\157\156\141\061\102\060\100\006\003\125\004\003\023\071\101
\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162\164
\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141\160
\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040\101
\066\062\066\063\064\060\066\070\061\046\060\044\006\011\052\206
\110\206\367\015\001\011\001\026\027\143\141\100\146\151\162\155
\141\160\162\157\146\145\163\151\157\156\141\154\056\143\157\155
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\001\001
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Wells Fargo Root CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Wells Fargo Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\024\060\022\006\003\125\004\012\023\013\127\145\154\154\163
\040\106\141\162\147\157\061\054\060\052\006\003\125\004\013\023
\043\127\145\154\154\163\040\106\141\162\147\157\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\061\057\060\055\006\003\125\004\003\023\046\127
\145\154\154\163\040\106\141\162\147\157\040\122\157\157\164\040
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\024\060\022\006\003\125\004\012\023\013\127\145\154\154\163
\040\106\141\162\147\157\061\054\060\052\006\003\125\004\013\023
\043\127\145\154\154\163\040\106\141\162\147\157\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\061\057\060\055\006\003\125\004\003\023\046\127
\145\154\154\163\040\106\141\162\147\157\040\122\157\157\164\040
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\071\344\227\236
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\345\060\202\002\315\240\003\002\001\002\002\004\071
\344\227\236\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\202\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\024\060\022\006\003\125\004\012\023\013\127\145\154
\154\163\040\106\141\162\147\157\061\054\060\052\006\003\125\004
\013\023\043\127\145\154\154\163\040\106\141\162\147\157\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\061\057\060\055\006\003\125\004\003\023
\046\127\145\154\154\163\040\106\141\162\147\157\040\122\157\157
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165
\164\150\157\162\151\164\171\060\036\027\015\060\060\061\060\061
\061\061\066\064\061\062\070\132\027\015\062\061\060\061\061\064
\061\066\064\061\062\070\132\060\201\202\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004\012
\023\013\127\145\154\154\163\040\106\141\162\147\157\061\054\060
\052\006\003\125\004\013\023\043\127\145\154\154\163\040\106\141
```

\162\147\157\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\061\057\060\055\006  
\003\125\004\003\023\046\127\145\154\154\163\040\106\141\162\147  
\157\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\145\040\101\165\164\150\157\162\151\164\171\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\325\250\063  
\073\046\371\064\377\315\233\176\345\004\107\316\000\342\175\167  
\347\061\302\056\047\245\115\150\271\061\272\215\103\131\227\307  
\163\252\177\075\134\100\236\005\345\241\342\211\331\114\270\077  
\233\371\014\264\310\142\031\054\105\256\221\036\163\161\101\304  
\113\023\375\160\302\045\254\042\365\165\013\267\123\344\245\053  
\335\316\275\034\072\172\303\367\023\217\046\124\234\026\153\153  
\257\373\330\226\261\140\232\110\340\045\042\044\171\064\316\016  
\046\000\013\116\253\375\213\316\202\327\057\010\160\150\301\250  
\012\371\164\117\007\253\244\371\342\203\176\047\163\164\076\270  
\371\070\102\374\245\250\133\110\043\263\353\343\045\262\200\256  
\226\324\012\234\302\170\232\306\150\030\256\067\142\067\136\121  
\165\250\130\143\300\121\356\100\170\176\250\257\032\240\341\260  
\170\235\120\214\173\347\263\374\216\043\260\333\145\000\160\204  
\001\010\000\024\156\124\206\232\272\314\371\067\020\366\340\336  
\204\055\235\244\205\067\323\207\343\025\320\301\027\220\176\031  
\041\152\022\251\166\375\022\002\351\117\041\136\027\002\003\001  
\000\001\243\141\060\137\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\114\006\003\125\035\040\004\105  
\060\103\060\101\006\013\140\206\110\001\206\373\173\207\007\001  
\013\060\062\060\060\006\010\053\006\001\005\005\007\002\001\026  
\044\150\164\164\160\072\057\057\167\167\167\056\167\145\154\154  
\163\146\141\162\147\157\056\143\157\155\057\143\145\162\164\160  
\157\154\151\143\171\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\322\047\335\234\012\167\053  
\273\042\362\002\265\112\112\221\371\321\055\276\344\273\032\150  
\357\016\244\000\351\356\347\357\356\366\371\345\164\244\302\330  
\122\130\304\164\373\316\153\265\073\051\171\030\132\357\233\355  
\037\153\066\356\110\045\045\024\266\126\242\020\350\356\247\177  
\320\077\243\320\303\135\046\356\007\314\303\301\044\041\207\036  
\337\052\022\123\157\101\026\347\355\256\224\372\214\162\372\023  
\107\360\074\176\256\175\021\072\023\354\355\372\157\162\144\173  
\235\175\177\046\375\172\373\045\255\352\076\051\177\114\343\000  
\127\062\260\263\351\355\123\027\331\213\262\024\016\060\350\345  
\325\023\306\144\257\304\000\325\330\130\044\374\365\217\354\361  
\307\175\245\333\017\047\321\306\362\100\210\346\037\366\141\250  
\364\102\310\271\067\323\251\276\054\126\170\302\162\233\131\135  
\065\100\212\350\116\143\032\266\351\040\152\121\342\316\244\220  
\337\166\160\231\134\160\103\115\267\266\247\031\144\116\222\267  
\305\221\074\177\110\026\145\173\026\375\313\374\373\331\325\326  
\117\041\145\073\112\177\107\243\373

END

```

#
Trust for Certificate "Wells Fargo Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Wells Fargo Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\223\346\253\042\003\003\265\043\050\334\332\126\236\272\344\321
\321\314\373\145
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\040\013\112\172\210\247\251\102\206\212\137\164\126\173\210\005
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\024\060\022\006\003\125\004\012\023\013\127\145\154\154\163
\040\106\141\162\147\157\061\054\060\052\006\003\125\004\013\023
\043\127\145\154\154\163\040\106\141\162\147\157\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\061\057\060\055\006\003\125\004\003\023\046\127
\145\154\154\163\040\106\141\162\147\157\040\122\157\157\164\040
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\071\344\227\236
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

#
# Certificate "Swisscom Root CA 1"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Swisscom Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147

```

\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145  
\040\123\145\162\166\151\143\145\163\061\033\060\031\006\003\125  
\004\003\023\022\123\167\151\163\163\143\157\155\040\122\157\157  
\164\040\103\101\040\061

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\143\150\061  
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143  
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147  
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145  
\040\123\145\162\166\151\143\145\163\061\033\060\031\006\003\125  
\004\003\023\022\123\167\151\163\163\143\157\155\040\122\157\157  
\164\040\103\101\040\061

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\134\013\205\134\013\347\131\101\337\127\314\077\177\235  
\250\066

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\331\060\202\003\301\240\003\002\001\002\002\020\134  
\013\205\134\013\347\131\101\337\127\314\077\177\235\250\066\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\144  
\061\013\060\011\006\003\125\004\006\023\002\143\150\061\021\060  
\017\006\003\125\004\012\023\010\123\167\151\163\163\143\157\155  
\061\045\060\043\006\003\125\004\013\023\034\104\151\147\151\164  
\141\154\040\103\145\162\164\151\146\151\143\141\164\145\040\123  
\145\162\166\151\143\145\163\061\033\060\031\006\003\125\004\003  
\023\022\123\167\151\163\163\143\157\155\040\122\157\157\164\040  
\103\101\040\061\060\036\027\015\060\065\060\070\061\070\061\062  
\060\066\062\060\132\027\015\062\065\060\070\061\070\062\062\060  
\066\062\060\132\060\144\061\013\060\011\006\003\125\004\006\023  
\002\143\150\061\021\060\017\006\003\125\004\012\023\010\123\167  
\151\163\163\143\157\155\061\045\060\043\006\003\125\004\013\023  
\034\104\151\147\151\164\141\154\040\103\145\162\164\151\146\151  
\143\141\164\145\040\123\145\162\166\151\143\145\163\061\033\060  
\031\006\003\125\004\003\023\022\123\167\151\163\163\143\157\155  
\040\122\157\157\164\040\103\101\040\061\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\320\271\260\250\014  
\331\273\077\041\370\033\325\063\223\200\026\145\040\165\262\075  
\233\140\155\106\310\214\061\157\027\303\372\232\154\126\355\074  
\305\221\127\303\315\253\226\111\220\052\031\113\036\243\155\127  
\335\361\053\142\050\165\105\136\252\326\133\372\013\045\330\241  
\026\371\034\304\056\346\225\052\147\314\320\051\156\074\205\064  
\070\141\111\261\000\237\326\072\161\137\115\155\316\137\271\251  
\344\211\177\152\122\372\312\233\362\334\251\371\235\231\107\077

\116\051\137\264\246\215\135\173\013\231\021\003\003\376\347\333  
\333\243\377\035\245\315\220\036\001\037\065\260\177\000\333\220  
\157\306\176\173\321\356\172\172\247\252\014\127\157\244\155\305  
\023\073\260\245\331\355\062\034\264\136\147\213\124\334\163\207  
\345\323\027\174\146\120\162\135\324\032\130\301\331\317\330\211  
\002\157\247\111\264\066\135\320\244\336\007\054\266\165\267\050  
\221\326\227\276\050\365\230\036\352\133\046\311\275\260\227\163  
\332\256\221\046\353\150\301\371\071\025\326\147\113\012\155\117  
\313\317\260\344\102\161\214\123\171\347\356\341\333\035\240\156  
\035\214\032\167\065\134\026\036\053\123\037\064\213\321\154\374  
\362\147\007\172\365\255\355\326\232\253\241\261\113\341\314\067  
\137\375\177\315\115\256\270\037\234\103\371\052\130\125\103\105  
\274\226\315\160\016\374\311\343\146\272\116\215\073\201\313\025  
\144\173\271\224\350\135\063\122\205\161\056\117\216\242\006\021  
\121\311\343\313\241\156\061\010\144\014\302\322\074\365\066\350  
\327\320\016\170\043\040\221\311\044\052\145\051\133\042\367\041  
\316\203\136\244\363\336\113\323\150\217\106\165\134\203\011\156  
\051\153\304\160\214\365\235\327\040\057\377\106\322\053\070\302  
\057\165\034\075\176\332\245\357\036\140\205\151\102\323\314\370  
\143\376\036\103\071\205\246\266\143\101\020\263\163\036\274\323  
\372\312\175\026\107\342\247\325\320\243\212\012\010\226\142\126  
\156\064\333\331\002\271\060\165\343\004\322\347\217\302\260\021  
\100\012\254\325\161\002\142\213\061\276\335\306\043\130\061\102  
\103\055\164\371\306\236\246\212\017\351\376\277\203\346\103\127  
\044\272\357\106\064\252\327\022\001\070\355\002\003\001\000\001  
\243\201\206\060\201\203\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\035\006\003\125\035\041\004\026\060  
\024\060\022\006\007\140\205\164\001\123\000\001\006\007\140\205  
\164\001\123\000\001\060\022\006\003\125\035\023\001\001\377\004  
\010\060\006\001\001\377\002\001\007\060\037\006\003\125\035\043  
\004\030\060\026\200\024\003\045\057\336\157\202\001\072\134\054  
\334\053\241\151\265\147\324\214\323\375\060\035\006\003\125\035  
\016\004\026\004\024\003\045\057\336\157\202\001\072\134\054\334  
\053\241\151\265\147\324\214\323\375\060\015\006\011\052\206\110  
\206\367\015\001\001\005\005\000\003\202\002\001\000\065\020\313  
\354\246\004\015\015\017\315\300\333\253\250\362\210\227\014\337  
\223\057\115\174\100\126\061\172\353\244\017\140\315\172\363\276  
\303\047\216\003\076\244\335\022\357\176\036\164\006\074\077\061  
\362\034\173\221\061\041\264\360\320\154\227\324\351\227\262\044  
\126\036\126\303\065\275\210\005\017\133\020\032\144\341\307\202  
\060\371\062\255\236\120\054\347\170\005\320\061\261\132\230\212  
\165\116\220\134\152\024\052\340\122\107\202\140\346\036\332\201  
\261\373\024\013\132\361\237\322\225\272\076\320\033\326\025\035  
\243\276\206\325\333\017\300\111\144\273\056\120\031\113\322\044  
\370\335\036\007\126\320\070\240\225\160\040\166\214\327\335\036  
\336\237\161\304\043\357\203\023\134\243\044\025\115\051\100\074  
\152\304\251\330\267\246\104\245\015\364\340\235\167\036\100\160  
\046\374\332\331\066\344\171\344\265\077\274\233\145\276\273\021

```
\226\317\333\306\050\071\072\010\316\107\133\123\132\305\231\376
\135\251\335\357\114\324\306\245\255\002\346\214\007\022\036\157
\003\321\157\240\243\363\051\275\022\307\120\242\260\177\210\251
\231\167\232\261\300\245\071\056\134\174\151\342\054\260\352\067
\152\244\341\132\341\365\120\345\203\357\245\273\052\210\347\214
\333\375\155\136\227\031\250\176\146\165\153\161\352\277\261\307
\157\240\364\216\244\354\064\121\133\214\046\003\160\241\167\325
\001\022\127\000\065\333\043\336\016\212\050\231\375\261\020\157
\113\377\070\055\140\116\054\234\353\147\265\255\111\356\113\037
\254\257\373\015\220\132\146\140\160\135\252\315\170\324\044\356
\310\101\240\223\001\222\234\152\236\374\271\044\305\263\025\202
\176\276\256\225\053\353\261\300\332\343\001\140\013\136\151\254
\204\126\141\276\161\027\376\035\023\017\376\306\207\105\351\376
\062\240\032\015\023\244\224\125\161\245\026\213\272\312\211\260
\262\307\374\217\330\124\265\223\142\235\316\317\131\373\075\030
\316\052\313\065\025\202\135\377\124\042\133\161\122\373\267\311
\376\140\233\000\101\144\360\252\052\354\266\102\103\316\211\146
\201\310\213\237\071\124\003\045\323\026\065\216\204\320\137\372
\060\032\365\232\154\364\016\123\371\072\133\321\034
```

END

#

Trust for Certificate "Swisscom Root CA 1"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Swisscom

Root CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\137\072\374\012\213\144\366\206\147\064\164\337\176\251\242\376
\371\372\172\121
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\370\070\174\167\210\337\054\026\150\056\302\342\122\113\270\371
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\144\061\013\060\011\006\003\125\004\006\023\002\143\150\061
\021\060\017\006\003\125\004\012\023\010\123\167\151\163\163\143
\157\155\061\045\060\043\006\003\125\004\013\023\034\104\151\147
\151\164\141\154\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\061\033\060\031\006\003\125
\004\003\023\022\123\167\151\163\163\143\157\155\040\122\157\157
\164\040\103\101\040\061
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\134\013\205\134\013\347\131\101\337\127\314\077\177\235
\250\066
```

```
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE
```

```
#
# Certificate "DigiCert Assured ID Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
```

```
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
```

```
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
```

```
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\267\060\202\002\237\240\003\002\001\002\002\020\014
\347\340\345\027\330\106\376\217\345\140\374\033\360\060\071\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
```



\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145  
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157  
\157\164\040\103\101\060\036\027\015\060\066\061\061\061\060\060  
\060\060\060\060\060\132\027\015\063\061\061\061\061\060\060\060  
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006  
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104  
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006  
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145  
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023  
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145  
\144\040\111\104\040\122\157\157\164\040\103\101\060\202\001\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\001\017\000\060\202\001\012\002\202\001\001\000\255\016\025  
\316\344\103\200\134\261\207\363\267\140\371\161\022\245\256\334  
\046\224\210\252\364\316\365\040\071\050\130\140\014\370\200\332  
\251\025\225\062\141\074\265\261\050\204\212\212\334\237\012\014  
\203\027\172\217\220\254\212\347\171\123\134\061\204\052\366\017  
\230\062\066\166\314\336\335\074\250\242\357\152\373\041\362\122  
\141\337\237\040\327\037\342\261\331\376\030\144\322\022\133\137  
\371\130\030\065\274\107\315\241\066\371\153\177\324\260\070\076  
\301\033\303\214\063\331\330\057\030\376\050\017\263\247\203\326  
\303\156\104\300\141\065\226\026\376\131\234\213\166\155\327\361  
\242\113\015\053\377\013\162\332\236\140\320\216\220\065\306\170  
\125\207\040\241\317\345\155\012\310\111\174\061\230\063\154\042  
\351\207\320\062\132\242\272\023\202\021\355\071\027\235\231\072  
\162\241\346\372\244\331\325\027\061\165\256\205\175\042\256\077  
\001\106\206\366\050\171\310\261\332\344\127\027\304\176\034\016  
\260\264\222\246\126\263\275\262\227\355\252\247\360\267\305\250  
\077\225\026\320\377\241\226\353\010\137\030\167\117\002\003\001  
\000\001\243\143\060\141\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026  
\004\024\105\353\242\257\364\222\313\202\061\055\121\213\247\247  
\041\235\363\155\310\017\060\037\006\003\125\035\043\004\030\060  
\026\200\024\105\353\242\257\364\222\313\202\061\055\121\213\247  
\247\041\235\363\155\310\017\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\242\016\274\337\342  
\355\360\343\162\163\172\144\224\277\367\162\146\330\062\344\102  
\165\142\256\207\353\362\325\331\336\126\263\237\314\316\024\050  
\271\015\227\140\134\022\114\130\344\323\075\203\111\105\130\227  
\065\151\032\250\107\352\126\306\171\253\022\330\147\201\204\337  
\177\011\074\224\346\270\046\054\040\275\075\263\050\211\367\137  
\377\042\342\227\204\037\351\145\357\207\340\337\301\147\111\263  
\135\353\262\011\052\353\046\355\170\276\175\077\053\363\267\046  
\065\155\137\211\001\266\111\133\237\001\005\233\253\075\045\301  
\314\266\177\302\361\157\206\306\372\144\150\353\201\055\224\353  
\102\267\372\214\036\335\142\361\276\120\147\267\154\275\363\361  
\037\153\014\066\007\026\177\067\174\251\133\155\172\361\022\106

```
\140\203\327\047\004\276\113\316\227\276\303\147\052\150\021\337
\200\347\014\063\146\277\023\015\024\156\363\177\037\143\020\036
\372\215\033\045\155\154\217\245\267\141\001\261\322\243\046\241
\020\161\235\255\342\303\371\303\231\121\267\053\007\010\316\056
\346\120\262\247\372\012\105\057\242\360\362
END
```

```
#
```

```
Trust for Certificate "DigiCert Assured ID Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\005\143\270\143\015\142\327\132\273\310\253\036\113\337\265\250
\231\262\115\103
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\207\316\013\173\052\016\111\000\341\130\161\233\067\250\223\162
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
```

```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "DigiCert Global Root CA"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root CA"
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CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145  
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151  
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221  
\307\112

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\257\060\202\002\227\240\003\002\001\002\002\020\010  
\073\340\126\220\102\106\261\241\165\152\311\131\221\307\112\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\141  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060  
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164  
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167  
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061  
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145  
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\103  
\101\060\036\027\015\060\066\061\061\061\060\060\060\060\060\060  
\060\132\027\015\063\061\061\061\061\060\060\060\060\060\060  
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103  
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013  
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143  
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147  
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157  
\164\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
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\252\120\242\217\013\167\220\311\242\245\356\022\316\226\133\001  
\011\040\314\001\223\247\116\060\267\123\367\103\304\151\000\127

\235\342\215\042\335\207\006\100\000\201\011\316\316\033\203\277  
\337\315\073\161\106\342\326\146\307\005\263\166\047\026\217\173  
\236\036\225\175\356\267\110\243\010\332\326\257\172\014\071\006  
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\170\231\131\205\150\156\134\043\062\113\277\116\300\350\132\155  
\343\160\277\167\020\277\374\001\366\205\331\250\104\020\130\062  
\251\165\030\325\321\242\276\107\342\047\152\364\232\063\370\111  
\010\140\213\324\137\264\072\204\277\241\252\112\114\175\076\317  
\117\137\154\166\136\240\113\067\221\236\334\042\346\155\316\024  
\032\216\152\313\376\315\263\024\144\027\307\133\051\236\062\277  
\362\356\372\323\013\102\324\253\267\101\062\332\014\324\357\370  
\201\325\273\215\130\077\265\033\350\111\050\242\160\332\061\004  
\335\367\262\026\362\114\012\116\007\250\355\112\075\136\265\177  
\243\220\303\257\047\002\003\001\000\001\243\143\060\141\060\016  
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\035\006\003\125\035\016\004\026\004\024\003\336\120\065\126\321  
\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060\037  
\006\003\125\035\043\004\030\060\026\200\024\003\336\120\065\126  
\321\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\313\234\067\252\110\023\022\012\372\335\104\234\117  
\122\260\364\337\256\004\365\171\171\010\243\044\030\374\113\053  
\204\300\055\271\325\307\376\364\301\037\130\313\270\155\234\172  
\164\347\230\051\253\021\265\343\160\240\241\315\114\210\231\223  
\214\221\160\342\253\017\034\276\223\251\377\143\325\344\007\140  
\323\243\277\235\133\011\361\325\216\343\123\364\216\143\372\077  
\247\333\264\146\337\142\146\326\321\156\101\215\362\055\265\352  
\167\112\237\235\130\342\053\131\300\100\043\355\055\050\202\105  
\076\171\124\222\046\230\340\200\110\250\067\357\360\326\171\140  
\026\336\254\350\016\315\156\254\104\027\070\057\111\332\341\105  
\076\052\271\066\123\317\072\120\006\367\056\350\304\127\111\154  
\141\041\030\325\004\255\170\074\054\072\200\153\247\353\257\025  
\024\351\330\211\301\271\070\154\342\221\154\212\377\144\271\167  
\045\127\060\300\033\044\243\341\334\351\337\107\174\265\264\044  
\010\005\060\354\055\275\013\277\105\277\120\271\251\363\353\230  
\001\022\255\310\210\306\230\064\137\215\012\074\306\351\325\225  
\225\155\336

END

#

Trust for Certificate "DigiCert Global Root CA"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "DigiCert Global Root CA"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\250\230\135\072\145\345\345\304\262\327\326\155\100\306\335\057

\261\234\124\066

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CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

\171\344\251\204\015\175\072\226\327\300\117\342\103\114\211\056

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145

\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023

\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157

\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151

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\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221

\307\112

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiCert High Assurance EV Root CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL

CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiCert High Assurance EV Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145

\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023

\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157

\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151

\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141

\156\143\145\040\105\126\040\122\157\157\164\040\103\101

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145

\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023  
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157  
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\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141  
\156\143\145\040\105\126\040\122\157\157\164\040\103\101

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106  
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CKA\_VALUE MULTILINE\_OCTAL

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\304\050\101\125\373\313\132\211\025\176\161\350\065\277\115\162  
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\320\064\004\023\134\241\161\323\132\174\125\333\136\144\341\067  
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\143\144\053\303\060\037\006\003\125\035\043\004\030\060\026\200
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\205\057\116\060\366\240\061\026\043\310\347\342\145\026\063\313
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\274\113\027\011\057\264\313\036\103\150\311\007\047\301\322\134
\367\352\041\271\150\022\234\074\234\277\236\374\200\134\233\143
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\370\351\056\023\243\167\350\037\112
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END

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Trust for Certificate "DigiCert High Assurance EV Root CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\267\356\006\063\342\131\333\255\014\114\232\346\323\217\032
\141\307\334\045
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CKA_CERT_MD5_HASH MULTILINE_OCTAL
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END

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\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
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MULTILINE_OCTAL
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\045\167
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certplus Class 2 Primary CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certplus Class 2 Primary CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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\165\163\061\033\060\031\006\003\125\004\003\023\022\103\154\141
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END
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UTF8 "0"
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\163\163\040\062\040\120\162\151\155\141\162\171\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
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END
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\060\202\003\222\060\202\002\172\240\003\002\001\002\002\021\000
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\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\075\061\013\060\011\006\003\125\004\006\023\002\106\122\061\021
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\111\173\064\211\047\044\204\336\261\354\351\130\116\376\116\337  
\132\276\101\255\254\010\305\030\016\357\322\123\356\154\320\235  
\022\001\023\215\334\200\142\367\225\251\104\210\112\161\116\140  
\125\236\333\043\031\171\126\007\014\077\143\013\134\260\342\276  
\176\025\374\224\063\130\101\070\164\304\341\217\213\337\046\254  
\037\265\213\073\267\103\131\153\260\044\246\155\220\213\304\162  
\352\135\063\230\267\313\336\136\173\357\224\361\033\076\312\311  
\041\301\305\230\002\252\242\366\133\167\233\365\176\226\125\064  
\034\147\151\300\361\102\343\107\254\374\050\034\146\125\002\003  
\001\000\001\243\201\214\060\201\211\060\017\006\003\125\035\023  
\004\010\060\006\001\001\377\002\001\012\060\013\006\003\125\035  
\017\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026  
\004\024\343\163\055\337\313\016\050\014\336\335\263\244\312\171  
\270\216\273\350\060\211\060\021\006\011\140\206\110\001\206\370  
\102\001\001\004\004\003\002\001\006\060\067\006\003\125\035\037  
\004\060\060\056\060\054\240\052\240\050\206\046\150\164\164\160  
\072\057\057\167\167\167\056\143\145\162\164\160\154\165\163\056  
\143\157\155\057\103\122\114\057\143\154\141\163\163\062\056\143  
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005  
\000\003\202\001\001\000\247\124\317\210\104\031\313\337\324\177  
\000\337\126\063\142\265\367\121\001\220\353\303\077\321\210\104  
\351\044\135\357\347\024\275\040\267\232\074\000\376\155\237\333  
\220\334\327\364\142\326\213\160\135\347\345\004\110\251\150\174  
\311\361\102\363\154\177\305\172\174\035\121\210\272\322\012\076  
\047\135\336\055\121\116\323\023\144\151\344\056\343\323\347\233  
\011\231\246\340\225\233\316\032\327\177\276\074\316\122\263\021  
\025\301\017\027\315\003\273\234\045\025\272\242\166\211\374\006  
\361\030\320\223\113\016\174\202\267\245\364\366\137\376\355\100  
\246\235\204\164\071\271\334\036\205\026\332\051\033\206\043\000  
\311\273\211\176\156\200\210\036\057\024\264\003\044\250\062\157  
\003\232\107\054\060\276\126\306\247\102\002\160\033\352\100\330  
\272\005\003\160\007\244\226\377\375\110\063\012\341\334\245\201  
\220\233\115\335\175\347\347\262\315\134\310\152\225\370\245\366  
\215\304\135\170\010\276\173\006\326\111\317\031\066\120\043\056

```
\010\346\236\005\115\107\030\325\026\351\261\326\266\020\325\273
\227\277\242\216\264\124
END
```

```
#
```

```
Trust for Certificate "Certplus Class 2 Primary CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certplus Class 2 Primary CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\164\040\164\101\162\234\335\222\354\171\061\330\043\020\215\302
\201\222\342\273
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\210\054\214\122\270\242\074\363\367\273\003\352\256\254\102\013
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\021\060\017\006\003\125\004\012\023\010\103\145\162\164\160\154
\165\163\061\033\060\031\006\003\125\004\003\023\022\103\154\141
\163\163\040\062\040\120\162\151\155\141\162\171\040\103\101
END
```

```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\021\000\205\275\113\363\330\332\343\151\366\224\327\137\303
\245\104\043
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "DST Root CA X3"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DST Root CA X3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\077\061\044\060\042\006\003\125\004\012\023\033\104\151\147
\151\164\141\154\040\123\151\147\156\141\164\165\162\145\040\124
\162\165\163\164\040\103\157\056\061\027\060\025\006\003\125\004
\003\023\016\104\123\124\040\122\157\157\164\040\103\101\040\130
```

```
\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\077\061\044\060\042\006\003\125\004\012\023\033\104\151\147
\151\164\141\154\040\123\151\147\156\141\164\165\162\145\040\124
\162\165\163\164\040\103\157\056\061\027\060\025\006\003\125\004
\003\023\016\104\123\124\040\122\157\157\164\040\103\101\040\130
\063
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\104\257\260\200\326\243\047\272\211\060\071\206\056\370
\100\153
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\112\060\202\002\062\240\003\002\001\002\002\020\104
\257\260\200\326\243\047\272\211\060\071\206\056\370\100\153\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\077
\061\044\060\042\006\003\125\004\012\023\033\104\151\147\151\164
\141\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165
\163\164\040\103\157\056\061\027\060\025\006\003\125\004\003\023
\016\104\123\124\040\122\157\157\164\040\103\101\040\130\063\060
\036\027\015\060\060\060\071\063\060\062\061\061\062\061\071\132
\027\015\062\061\060\071\063\060\061\064\060\061\061\065\132\060
\077\061\044\060\042\006\003\125\004\012\023\033\104\151\147\151
\164\141\154\040\123\151\147\156\141\164\165\162\145\040\124\162
\165\163\164\040\103\157\056\061\027\060\025\006\003\125\004\003
\023\016\104\123\124\040\122\157\157\164\040\103\101\040\130\063
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\337\257\351\227\120\010\203\127\264\314\142\145\366\220\202
\354\307\323\054\153\060\312\133\354\331\303\175\307\100\301\030
\024\213\340\350\063\166\111\052\343\077\041\111\223\254\116\016
\257\076\110\313\145\356\374\323\041\017\145\322\052\331\062\217
\214\345\367\167\260\022\173\265\225\300\211\243\251\272\355\163
\056\172\014\006\062\203\242\176\212\024\060\315\021\240\341\052
\070\271\171\012\061\375\120\275\200\145\337\267\121\143\203\310
\342\210\141\352\113\141\201\354\122\153\271\242\342\113\032\050
\237\110\243\236\014\332\011\216\076\027\056\036\335\040\337\133
\306\052\212\253\056\275\160\255\305\013\032\045\220\164\162\305
\173\152\253\064\326\060\211\377\345\150\023\173\124\013\310\326
\256\354\132\234\222\036\075\144\263\214\306\337\277\311\101\160
\354\026\162\325\046\354\070\125\071\103\320\374\375\030\134\100
\361\227\353\325\232\233\215\035\272\332\045\271\306\330\337\301
\025\002\072\253\332\156\361\076\056\365\134\010\234\074\326\203
\151\344\020\233\031\052\266\051\127\343\345\075\233\237\360\002
\135\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
```

```
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125
\035\016\004\026\004\024\304\247\261\244\173\054\161\372\333\341
\113\220\165\377\304\025\140\205\211\020\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\243\032
\054\233\027\000\134\251\036\356\050\146\067\072\277\203\307\077
\113\303\011\240\225\040\135\343\331\131\104\322\076\015\076\275
\212\113\240\164\037\316\020\202\234\164\032\035\176\230\032\335
\313\023\113\263\040\104\344\221\351\314\374\175\245\333\152\345
\376\346\375\340\116\335\267\000\072\265\160\111\257\362\345\353
\002\361\321\002\213\031\313\224\072\136\110\304\030\036\130\031
\137\036\002\132\360\014\361\261\255\251\334\131\206\213\156\351
\221\365\206\312\372\271\146\063\252\131\133\316\342\247\026\163
\107\313\053\314\231\260\067\110\317\343\126\113\365\317\017\014
\162\062\207\306\360\104\273\123\162\155\103\365\046\110\232\122
\147\267\130\253\376\147\166\161\170\333\015\242\126\024\023\071
\044\061\205\242\250\002\132\060\107\341\335\120\007\274\002\011
\220\000\353\144\143\140\233\026\274\210\311\022\346\322\175\221
\213\371\075\062\215\145\264\351\174\261\127\166\352\305\266\050
\071\277\025\145\034\310\366\167\226\152\012\215\167\013\330\221
\013\004\216\007\333\051\266\012\356\235\202\065\065\020
END
```

#

```
Trust for Certificate "DST Root CA X3"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DST Root
CA X3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\332\311\002\117\124\330\366\337\224\223\137\261\163\046\070\312
\152\327\174\023
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\101\003\122\334\017\367\120\033\026\360\002\216\272\157\105\305
END
CKA_ISSUER MULTILINE_OCTAL
\060\077\061\044\060\042\006\003\125\004\012\023\033\104\151\147
\151\164\141\154\040\123\151\147\156\141\164\165\162\145\040\124
\162\165\163\164\040\103\157\056\061\027\060\025\006\003\125\004
\003\023\016\104\123\124\040\122\157\157\164\040\103\101\040\130
\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\104\257\260\200\326\243\047\272\211\060\071\206\056\370
\100\153
```

```
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "DST ACES CA X6"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DST ACES CA X6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\133\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\104\151\147\151\164\141
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163
\164\061\021\060\017\006\003\125\004\013\023\010\104\123\124\040
\101\103\105\123\061\027\060\025\006\003\125\004\003\023\016\104
\123\124\040\101\103\105\123\040\103\101\040\130\066
```

```
END
```

```
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\133\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\104\151\147\151\164\141
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163
\164\061\021\060\017\006\003\125\004\013\023\010\104\123\124\040
\101\103\105\123\061\027\060\025\006\003\125\004\003\023\016\104
\123\124\040\101\103\105\123\040\103\101\040\130\066
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\015\136\231\012\326\235\267\170\354\330\007\126\073\206
\025\331
```

```
END
```

```
CKA_VALUE
MULTILINE_OCTAL
\060\202\004\011\060\202\002\361\240\003\002\001\002\002\020\015
\136\231\012\326\235\267\170\354\330\007\126\073\206\025\331\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\133
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\104\151\147\151\164\141\154\040
\123\151\147\156\141\164\165\162\145\040\124\162\165\163\164\061
\021\060\017\006\003\125\004\013\023\010\104\123\124\040\101\103
\105\123\061\027\060\025\006\003\125\004\003\023\016\104\123\124
\040\101\103\105\123\040\103\101\040\130\066\060\036\027\015\060
```

\063\061\061\062\060\062\061\061\071\065\070\132\027\015\061\067  
\061\061\062\060\062\061\061\071\065\070\132\060\133\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003  
\125\004\012\023\027\104\151\147\151\164\141\154\040\123\151\147  
\156\141\164\165\162\145\040\124\162\165\163\164\061\021\060\017  
\006\003\125\004\013\023\010\104\123\124\040\101\103\105\123\061  
\027\060\025\006\003\125\004\003\023\016\104\123\124\040\101\103  
\105\123\040\103\101\040\130\066\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\271\075\365\054\311\224\334  
\165\212\225\135\143\350\204\167\166\146\271\131\221\134\106\335  
\222\076\237\371\016\003\264\075\141\222\275\043\046\265\143\356  
\222\322\236\326\074\310\015\220\137\144\201\261\250\010\015\114  
\330\371\323\005\050\122\264\001\045\305\225\034\014\176\076\020  
\204\165\317\301\031\221\143\317\350\250\221\210\271\103\122\273  
\200\261\125\211\213\061\372\320\267\166\276\101\075\060\232\244  
\042\045\027\163\350\036\342\323\254\052\275\133\070\041\325\052  
\113\327\125\175\343\072\125\275\327\155\153\002\127\153\346\107  
\174\010\310\202\272\336\247\207\075\241\155\270\060\126\302\263  
\002\201\137\055\365\342\232\060\030\050\270\146\323\313\001\226  
\157\352\212\105\125\326\340\235\377\147\053\027\002\246\116\032  
\152\021\013\176\267\173\347\230\326\214\166\157\301\073\333\120  
\223\176\345\320\216\037\067\270\275\272\306\237\154\351\174\063  
\362\062\074\046\107\372\047\044\002\311\176\035\133\210\102\023  
\152\065\174\175\065\351\056\146\221\162\223\325\062\046\304\164  
\365\123\243\263\135\232\366\011\313\002\003\001\000\001\243\201  
\310\060\201\305\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\306\060\037\006\003\125\035\021\004\030\060\026  
\201\024\160\153\151\055\157\160\163\100\164\162\165\163\164\144  
\163\164\056\143\157\155\060\142\006\003\125\035\040\004\133\060  
\131\060\127\006\012\140\206\110\001\145\003\002\001\001\001\060  
\111\060\107\006\010\053\006\001\005\005\007\002\001\026\073\150  
\164\164\160\072\057\057\167\167\167\056\164\162\165\163\164\144  
\163\164\056\143\157\155\057\143\145\162\164\151\146\151\143\141  
\164\145\163\057\160\157\154\151\143\171\057\101\103\105\123\055  
\151\156\144\145\170\056\150\164\155\154\060\035\006\003\125\035  
\016\004\026\004\024\011\162\006\116\030\103\017\345\326\314\303  
\152\213\061\173\170\217\250\203\270\060\015\006\011\052\206\110  
\206\367\015\001\001\005\005\000\003\202\001\001\000\243\330\216  
\326\262\333\316\005\347\062\315\001\323\004\003\345\166\344\126  
\053\234\231\220\350\010\060\154\337\175\075\356\345\277\265\044  
\100\204\111\341\321\050\256\304\302\072\123\060\210\361\365\167  
\156\121\312\372\377\231\257\044\137\033\240\375\362\254\204\312  
\337\251\360\137\004\056\255\026\277\041\227\020\201\075\343\377  
\207\215\062\334\224\345\107\212\136\152\023\311\224\225\075\322  
\356\310\064\225\320\200\324\255\062\010\200\124\074\340\275\122  
\123\327\122\174\262\151\077\177\172\317\152\164\312\372\004\052

```
\234\114\132\006\245\351\040\255\105\146\017\151\361\335\277\351
\343\062\213\372\340\301\206\115\162\074\056\330\223\170\012\052
\370\330\322\047\075\031\211\137\132\173\212\073\314\014\332\121
\256\307\013\367\053\260\067\005\354\274\127\043\342\070\322\233
\150\363\126\022\210\117\102\174\270\061\304\265\333\344\310\041
\064\351\110\021\065\356\372\307\222\127\305\237\064\344\307\366
\367\016\013\114\234\150\170\173\161\061\307\353\036\340\147\101
\363\267\240\247\315\345\172\063\066\152\372\232\053
```

END

#

Trust for Certificate "DST ACES CA X6"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DST ACES CA X6"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\100\124\332\157\034\077\100\164\254\355\017\354\315\333\171\321
\123\373\220\035
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\041\330\114\202\053\231\011\063\242\353\024\044\215\216\137\350
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\133\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\104\151\147\151\164\141
\154\040\123\151\147\156\141\164\165\162\145\040\124\162\165\163
\164\061\021\060\017\006\003\125\004\013\023\010\104\123\124\040
\101\103\105\123\061\027\060\025\006\003\125\004\003\023\016\104
\123\124\040\101\103\105\123\040\103\101\040\130\066
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\020\015\136\231\012\326\235\267\170\354\330\007\126\073\206
\025\331
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TURKTRUST Certificate Services Provider Root 1"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TURKTRUST Certificate Services Provider Root 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\267\061\077\060\075\006\003\125\004\003\014\066\124\303
\234\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157
\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304
\261\163\304\261\061\013\060\011\006\003\125\004\006\014\002\124
\122\061\017\060\015\006\003\125\004\007\014\006\101\116\113\101
\122\101\061\126\060\124\006\003\125\004\012\014\115\050\143\051
\040\062\060\060\065\040\124\303\234\122\113\124\122\125\123\124
\040\102\151\154\147\151\040\304\260\154\145\164\151\305\237\151
\155\040\166\145\040\102\151\154\151\305\237\151\155\040\107\303
\274\166\145\156\154\151\304\237\151\040\110\151\172\155\145\164
\154\145\162\151\040\101\056\305\236\056
```

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\267\061\077\060\075\006\003\125\004\003\014\066\124\303
\234\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157
\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304
\261\163\304\261\061\013\060\011\006\003\125\004\006\014\002\124
\122\061\017\060\015\006\003\125\004\007\014\006\101\116\113\101
\122\101\061\126\060\124\006\003\125\004\012\014\115\050\143\051
\040\062\060\060\065\040\124\303\234\122\113\124\122\125\123\124
\040\102\151\154\147\151\040\304\260\154\145\164\151\305\237\151
\155\040\166\145\040\102\151\154\151\305\237\151\155\040\107\303
\274\166\145\156\154\151\304\237\151\040\110\151\172\155\145\164
\154\145\162\151\040\101\056\305\236\056
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\001

END

CKA\_VALUE MULTILINE\_OCTAL

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\060\202\003\373\060\202\002\343\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\267\061\077\060\075\006\003\125\004\003\014\066\124\303\234
\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157\156
\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172
\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304\261
\163\304\261\061\013\060\011\006\003\125\004\006\014\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\116\113\101\122
\101\061\126\060\124\006\003\125\004\012\014\115\050\143\051\040
\062\060\060\065\040\124\303\234\122\113\124\122\125\123\124\040
```



\102\151\154\147\151\040\304\260\154\145\164\151\305\237\151\155  
\040\166\145\040\102\151\154\151\305\237\151\155\040\107\303\274  
\166\145\156\154\151\304\237\151\040\110\151\172\155\145\164\154  
\145\162\151\040\101\056\305\236\056\060\036\027\015\060\065\060  
\065\061\063\061\060\062\067\061\067\132\027\015\061\065\060\063  
\062\062\061\060\062\067\061\067\132\060\201\267\061\077\060\075  
\006\003\125\004\003\014\066\124\303\234\122\113\124\122\125\123  
\124\040\105\154\145\153\164\162\157\156\151\153\040\123\145\162  
\164\151\146\151\153\141\040\110\151\172\155\145\164\040\123\141  
\304\237\154\141\171\304\261\143\304\261\163\304\261\061\013\060  
\011\006\003\125\004\006\014\002\124\122\061\017\060\015\006\003  
\125\004\007\014\006\101\116\113\101\122\101\061\126\060\124\006  
\003\125\004\012\014\115\050\143\051\040\062\060\060\065\040\124  
\303\234\122\113\124\122\125\123\124\040\102\151\154\147\151\040  
\304\260\154\145\164\151\305\237\151\155\040\166\145\040\102\151  
\154\151\305\237\151\155\040\107\303\274\166\145\156\154\151\304  
\237\151\040\110\151\172\155\145\164\154\145\162\151\040\101\056  
\305\236\056\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\312\122\005\326\143\003\330\034\137\335\322\173  
\135\362\014\140\141\133\153\073\164\053\170\015\175\105\275\042  
\164\350\214\003\301\306\021\052\075\225\274\251\224\260\273\221  
\227\310\151\174\204\305\264\221\154\154\023\152\244\125\255\244  
\205\350\225\176\263\000\257\000\302\005\030\365\160\235\066\213  
\256\313\344\033\201\177\223\210\373\152\125\273\175\205\222\316  
\272\130\237\333\062\305\275\135\357\042\112\057\101\007\176\111  
\141\263\206\354\116\246\101\156\204\274\003\354\365\073\034\310  
\037\302\356\250\356\352\022\112\215\024\317\363\012\340\120\071  
\371\010\065\370\021\131\255\347\042\352\113\312\024\006\336\102  
\272\262\231\363\055\124\210\020\006\352\341\032\076\075\147\037  
\373\316\373\174\202\350\021\135\112\301\271\024\352\124\331\146  
\233\174\211\175\004\232\142\311\351\122\074\236\234\357\322\365  
\046\344\346\345\030\174\213\156\337\154\314\170\133\117\162\262  
\313\134\077\214\005\215\321\114\214\255\222\307\341\170\177\145  
\154\111\006\120\054\236\062\302\327\112\306\165\212\131\116\165  
\157\107\136\301\002\003\001\000\001\243\020\060\016\060\014\006  
\003\125\035\023\004\005\060\003\001\001\377\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\025  
\365\125\377\067\226\200\131\041\244\374\241\025\114\040\366\324  
\137\332\003\044\374\317\220\032\364\041\012\232\356\072\261\152  
\357\357\370\140\321\114\066\146\105\035\363\146\002\164\004\173  
\222\060\250\336\012\166\017\357\225\156\275\311\067\346\032\015  
\254\211\110\133\314\203\066\302\365\106\134\131\202\126\264\325  
\376\043\264\330\124\034\104\253\304\247\345\024\316\074\101\141  
\174\103\346\315\304\201\011\213\044\373\124\045\326\026\250\226  
\014\147\007\157\263\120\107\343\034\044\050\335\052\230\244\141  
\376\333\352\022\067\274\001\032\064\205\275\156\117\347\221\162  
\007\104\205\036\130\312\124\104\335\367\254\271\313\211\041\162

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\333\217\300\151\051\227\052\243\256\030\043\227\034\101\052\213
\174\052\301\174\220\350\251\050\300\323\221\306\255\050\207\100
\150\265\377\354\247\322\323\070\030\234\323\175\151\135\360\306
\245\036\044\033\243\107\374\151\007\150\347\344\232\264\355\017
\241\207\207\002\316\207\322\110\116\341\274\377\313\361\162\222
\104\144\003\045\352\336\133\156\237\311\362\116\254\335\307
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END

#

Trust for Certificate "TURKTRUST Certificate Services Provider Root 1"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TURKTRUST Certificate Services Provider Root 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\171\230\243\010\341\115\145\205\346\302\036\025\072\161\237\272
\132\323\112\331
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\361\152\042\030\311\315\337\316\202\035\035\267\170\134\251\245
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\267\061\077\060\075\006\003\125\004\003\014\066\124\303
\234\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157
\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304
\261\163\304\261\061\013\060\011\006\003\125\004\006\014\002\124
\122\061\017\060\015\006\003\125\004\007\014\006\101\116\113\101
\122\101\061\126\060\124\006\003\125\004\012\014\115\050\143\051
\040\062\060\060\065\040\124\303\234\122\113\124\122\125\123\124
\040\102\151\154\147\151\040\304\260\154\145\164\151\305\237\151
\155\040\166\145\040\102\151\154\151\305\237\151\155\040\107\303
\274\166\145\156\154\151\304\237\151\040\110\151\172\155\145\164
\154\145\162\151\040\101\056\305\236\056
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\001\001
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST

CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TURKTRUST Certificate Services Provider Root 2"

```
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TURKTRUST Certificate Services Provider Root 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\077\060\075\006\003\125\004\003\014\066\124\303
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\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304
\261\163\304\261\061\013\060\011\006\003\125\004\006\023\002\124
\122\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141
\162\141\061\135\060\133\006\003\125\004\012\014\124\124\303\234
\122\113\124\122\125\123\124\040\102\151\154\147\151\040\304\260
\154\145\164\151\305\237\151\155\040\166\145\040\102\151\154\151
\305\237\151\155\040\107\303\274\166\145\156\154\151\304\237\151
\040\110\151\172\155\145\164\154\145\162\151\040\101\056\305\236
\056\040\050\143\051\040\113\141\163\304\261\155\040\062\060\060
\065
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\077\060\075\006\003\125\004\003\014\066\124\303
\234\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157
\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304
\261\163\304\261\061\013\060\011\006\003\125\004\006\023\002\124
\122\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141
\162\141\061\135\060\133\006\003\125\004\012\014\124\124\303\234
\122\113\124\122\125\123\124\040\102\151\154\147\151\040\304\260
\154\145\164\151\305\237\151\155\040\166\145\040\102\151\154\151
\305\237\151\155\040\107\303\274\166\145\156\154\151\304\237\151
\040\110\151\172\155\145\164\154\145\162\151\040\101\056\305\236
\056\040\050\143\051\040\113\141\163\304\261\155\040\062\060\060
\065
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\074\060\202\003\044\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\276\061\077\060\075\006\003\125\004\003\014\066\124\303\234
\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157\156
```

\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172  
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\163\304\261\061\013\060\011\006\003\125\004\006\023\002\124\122  
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162  
\141\061\135\060\133\006\003\125\004\012\014\124\124\303\234\122  
\113\124\122\125\123\124\040\102\151\154\147\151\040\304\260\154  
\145\164\151\305\237\151\155\040\166\145\040\102\151\154\151\305  
\237\151\155\040\107\303\274\166\145\156\154\151\304\237\151\040  
\110\151\172\155\145\164\154\145\162\151\040\101\056\305\236\056  
\040\050\143\051\040\113\141\163\304\261\155\040\062\060\060\065  
\060\036\027\015\060\065\061\061\060\067\061\060\060\067\065\067  
\132\027\015\061\065\060\071\061\066\061\060\060\067\065\067\132  
\060\201\276\061\077\060\075\006\003\125\004\003\014\066\124\303  
\234\122\113\124\122\125\123\124\040\105\154\145\153\164\162\157  
\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151  
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304  
\261\163\304\261\061\013\060\011\006\003\125\004\006\023\002\124  
\122\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141  
\162\141\061\135\060\133\006\003\125\004\012\014\124\124\303\234  
\122\113\124\122\125\123\124\040\102\151\154\147\151\040\304\260  
\154\145\164\151\305\237\151\155\040\166\145\040\102\151\154\151  
\305\237\151\155\040\107\303\274\166\145\156\154\151\304\237\151  
\040\110\151\172\155\145\164\154\145\162\151\040\101\056\305\236  
\056\040\050\143\051\040\113\141\163\304\261\155\040\062\060\060  
\065\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001  
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001  
\001\000\251\066\176\303\221\103\114\303\031\230\010\310\307\130  
\173\117\026\214\245\316\111\001\037\163\016\254\165\023\246\372  
\236\054\040\336\330\220\016\012\321\151\322\047\373\252\167\237  
\047\122\045\342\313\135\330\330\203\120\027\175\212\265\202\077  
\004\216\264\325\360\111\247\144\267\036\056\137\040\234\120\165  
\117\257\341\265\101\024\364\230\222\210\307\345\345\144\107\141  
\107\171\375\300\121\361\301\231\347\334\316\152\373\257\265\001  
\060\334\106\034\357\212\354\225\357\334\377\257\020\034\353\235  
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\171\007\170\273\227\225\364\237\151\324\130\207\012\251\343\314  
\266\130\031\237\046\041\261\304\131\215\262\101\165\300\255\151  
\316\234\000\010\362\066\377\076\360\241\017\032\254\024\375\246  
\140\017\002\003\001\000\001\243\103\060\101\060\035\006\003\125  
\035\016\004\026\004\024\331\067\263\116\005\375\331\317\237\022  
\026\256\266\211\057\353\045\072\210\034\060\017\006\003\125\035  
\017\001\001\377\004\005\003\003\007\006\000\060\017\006\003\125  
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000

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\162\140\226\267\311\334\330\051\136\043\205\137\262\263\055\166
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\020\042\354\252\271\060\366\253\130\326\071\020\061\231\051\000
\275\211\146\101\373\164\336\221\301\030\013\237\265\141\313\235
\072\276\365\250\224\243\042\125\156\027\111\377\322\051\361\070
\046\135\357\245\252\072\371\161\173\346\332\130\035\323\164\302
\001\372\076\151\130\137\255\313\150\276\024\056\233\154\300\266
\334\240\046\372\167\032\342\044\332\032\067\340\147\255\321\163
\203\015\245\032\035\156\022\222\176\204\142\000\027\275\274\045
\030\127\362\327\251\157\131\210\274\064\267\056\205\170\235\226
\334\024\303\054\212\122\233\226\214\122\146\075\206\026\213\107
\270\121\011\214\352\175\315\210\162\263\140\063\261\360\012\104
\357\017\365\011\067\210\044\016\054\153\040\072\242\372\021\362
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\313\166\175\175\210\330\035\310\005\035\156\274\224\251\146\214
\167\161\307\372\221\372\057\121\236\351\071\122\266\347\004\102
END
```

#

Trust for Certificate "TURKTRUST Certificate Services Provider Root 2"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TURKTRUST Certificate Services Provider Root 2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\264\065\324\341\021\235\034\146\220\247\111\353\263\224\275\143
\173\247\202\267
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END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

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\067\245\156\324\261\045\204\227\267\375\126\025\172\371\242\000
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END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\276\061\077\060\075\006\003\125\004\003\014\066\124\303
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\156\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151
\172\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304
\261\163\304\261\061\013\060\011\006\003\125\004\006\023\002\124
\122\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141
\162\141\061\135\060\133\006\003\125\004\012\014\124\124\303\234
\122\113\124\122\125\123\124\040\102\151\154\147\151\040\304\260
\154\145\164\151\305\237\151\155\040\166\145\040\102\151\154\151
\305\237\151\155\040\107\303\274\166\145\156\154\151\304\237\151
\040\110\151\172\155\145\164\154\145\162\151\040\101\056\305\236
\056\040\050\143\051\040\113\141\163\304\261\155\040\062\060\060
\065
```

END

```
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "SwissSign Platinum CA - G2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Platinum CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\111\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\043\060\041\006\003\125\004\003\023
\032\123\167\151\163\163\123\151\147\156\040\120\154\141\164\151
\156\165\155\040\103\101\040\055\040\107\062
```

```
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\111\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\043\060\041\006\003\125\004\003\023
\032\123\167\151\163\163\123\151\147\156\040\120\154\141\164\151
\156\165\155\040\103\101\040\055\040\107\062
```

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END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\116\262\000\147\014\003\135\117
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END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\301\060\202\003\251\240\003\002\001\002\002\010\116
\262\000\147\014\003\135\117\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\111\061\013\060\011\006\003\125\004
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014
\123\167\151\163\163\123\151\147\156\040\101\107\061\043\060\041
\006\003\125\004\003\023\032\123\167\151\163\163\123\151\147\156
\040\120\154\141\164\151\156\165\155\040\103\101\040\055\040\107
\062\060\036\027\015\060\066\061\060\062\065\060\070\063\066\060
\060\132\027\015\063\066\061\060\062\065\060\070\063\066\060\060
\132\060\111\061\013\060\011\006\003\125\004\006\023\002\103\110
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\061\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163  
\123\151\147\156\040\101\107\061\043\060\041\006\003\125\004\003  
\023\032\123\167\151\163\163\123\151\147\156\040\120\154\141\164  
\151\156\165\155\040\103\101\040\055\040\107\062\060\202\002\042  
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003  
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\337\242  
\002\342\332\370\374\007\026\261\336\140\252\336\226\134\144\037  
\307\057\176\317\147\372\104\102\326\166\143\225\256\353\257\162  
\040\212\105\107\206\142\170\206\326\040\071\046\364\256\243\375  
\043\347\245\234\265\042\041\031\267\067\223\042\300\120\234\202  
\173\324\325\004\104\134\313\264\302\237\222\276\044\330\173\147  
\042\342\151\137\345\005\170\324\207\331\161\160\063\045\123\264  
\207\073\051\220\050\066\232\125\104\060\150\244\203\227\177\015  
\036\234\166\377\025\235\140\227\000\215\212\205\003\354\200\276  
\352\054\156\020\121\222\314\176\325\243\063\330\326\111\336\130  
\052\257\366\026\353\113\173\220\062\227\271\272\235\130\361\370  
\127\111\004\036\242\135\006\160\335\161\333\371\335\213\232\033  
\214\317\075\243\115\316\313\174\366\273\234\240\372\011\316\043  
\142\262\351\015\037\342\162\050\217\237\254\150\040\175\157\073  
\250\205\061\011\177\013\307\350\145\351\343\170\016\011\147\060  
\213\064\202\373\135\340\314\235\201\155\142\356\010\036\004\054  
\116\233\354\376\251\117\137\375\151\170\357\011\037\241\264\277  
\372\363\357\220\036\114\005\213\036\352\172\221\172\303\327\345  
\373\060\274\154\033\020\130\230\367\032\137\320\051\062\003\023  
\106\115\141\152\205\114\122\164\057\006\037\173\021\342\204\227  
\306\231\363\155\177\327\147\203\176\023\150\330\161\050\132\330  
\316\335\350\020\024\232\376\155\043\207\156\216\132\160\074\325  
\215\011\000\247\252\274\260\061\067\155\310\204\024\036\133\275  
\105\143\040\153\113\164\214\275\333\072\016\301\317\132\026\217  
\245\230\362\166\211\262\023\022\073\013\167\167\254\273\345\074  
\051\112\222\162\312\141\032\053\136\114\342\203\164\167\372\065  
\110\172\205\115\215\232\123\304\337\170\312\227\221\110\053\105  
\053\001\367\034\032\242\355\030\272\012\275\203\372\157\274\215  
\127\223\073\324\324\246\316\036\361\240\261\316\253\375\053\050  
\232\117\033\327\303\162\333\244\304\277\135\114\365\335\173\226  
\151\356\150\200\346\347\230\272\066\267\376\156\355\053\275\040  
\370\145\031\332\125\011\176\045\334\376\141\142\162\371\176\030  
\002\357\143\264\320\373\257\345\073\143\214\147\217\002\003\001  
\000\001\243\201\254\060\201\251\060\016\006\003\125\035\017\001  
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016  
\004\026\004\024\120\257\314\007\207\025\107\157\070\305\264\145  
\321\336\225\252\351\337\234\314\060\037\006\003\125\035\043\004  
\030\060\026\200\024\120\257\314\007\207\025\107\157\070\305\264  
\145\321\336\225\252\351\337\234\314\060\106\006\003\125\035\040  
\004\077\060\075\060\073\006\011\140\205\164\001\131\001\001\001  
\001\060\056\060\054\006\010\053\006\001\005\005\007\002\001\026  
\040\150\164\164\160\072\057\057\162\145\160\157\163\151\164\157

\162\171\056\163\167\151\163\163\163\151\147\156\056\143\157\155  
\057\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\002\001\000\010\205\246\365\026\014\374\104\032\301\143  
\340\371\125\106\010\374\160\034\102\050\226\216\267\305\301\101  
\165\116\011\161\171\345\155\226\312\113\245\210\140\320\060\164  
\270\312\010\334\264\060\236\100\007\026\153\145\225\167\001\256  
\244\267\065\013\201\332\161\025\251\164\027\070\173\130\312\371  
\057\373\300\145\166\215\133\001\271\175\336\202\075\144\270\276  
\024\164\243\012\124\323\054\225\030\027\065\365\121\153\077\217  
\242\226\141\071\170\153\113\345\246\240\370\123\337\121\020\223  
\142\347\200\057\342\321\340\274\216\066\106\167\063\354\270\373  
\216\232\054\211\115\061\021\017\046\236\004\273\267\004\215\013  
\362\271\374\132\235\073\026\267\057\310\230\253\376\212\120\131  
\056\243\073\374\051\135\213\301\113\311\342\212\023\035\261\277  
\273\102\035\122\335\116\330\024\136\020\306\061\007\357\161\047  
\367\033\071\011\334\202\352\213\263\225\206\136\375\365\332\135  
\061\246\340\061\266\224\346\104\111\164\305\026\345\367\037\003  
\141\050\305\310\313\022\240\102\113\371\153\210\010\215\264\062  
\030\363\165\237\304\177\000\117\005\225\234\243\027\002\303\263  
\123\233\252\040\071\051\053\146\372\235\257\136\263\222\322\265  
\246\341\032\371\055\101\151\201\024\264\264\265\355\211\075\316  
\373\251\235\065\102\104\261\034\024\163\201\317\052\001\065\232  
\061\325\055\217\155\204\337\200\115\127\343\077\305\204\165\332  
\211\306\060\273\353\217\313\042\010\240\256\252\361\003\154\072  
\113\115\011\245\016\162\306\126\153\041\102\116\043\045\024\150  
\256\166\012\174\014\007\160\144\371\232\057\366\005\071\046\306  
\014\217\031\177\103\136\156\364\133\025\057\333\141\135\346\147  
\057\077\010\224\371\140\264\230\061\332\164\361\204\223\161\115  
\137\373\140\130\321\373\304\301\155\211\242\273\040\037\235\161  
\221\313\062\233\023\075\076\175\222\122\065\254\222\224\242\323  
\030\302\174\307\352\257\166\005\026\335\147\047\302\176\034\007  
\042\041\363\100\012\033\064\007\104\023\302\204\152\216\337\031  
\132\277\177\353\035\342\032\070\321\134\257\107\222\153\200\265  
\060\245\311\215\330\253\061\201\037\337\302\146\067\323\223\251  
\205\206\171\145\322

END

#

Trust for Certificate "SwissSign Platinum CA - G2"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "SwissSign Platinum CA - G2"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\126\340\372\300\073\217\030\043\125\030\345\323\021\312\350\302  
\103\061\253\146

END



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CKA_CERT_MD5_HASH MULTILINE_OCTAL
\311\230\047\167\050\036\075\016\025\074\204\000\270\205\003\346
END
CKA_ISSUER MULTILINE_OCTAL
\060\111\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\043\060\041\006\003\125\004\003\023
\032\123\167\151\163\163\123\151\147\156\040\120\154\141\164\151
\156\165\155\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\010\116\262\000\147\014\003\135\117
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SwissSign Gold CA - G2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_VALUE MULTILINE_OCTAL

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\060\202\005\272\060\202\003\242\240\003\002\001\002\002\011\000  
\273\100\034\103\365\136\117\260\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\060\105\061\013\060\011\006\003\125  
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023  
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\037\060  
\035\006\003\125\004\003\023\026\123\167\151\163\163\123\151\147  
\156\040\107\157\154\144\040\103\101\040\055\040\107\062\060\036  
\027\015\060\066\061\060\062\065\060\070\063\060\063\065\132\027  
\015\063\066\061\060\062\065\060\070\063\060\063\065\132\060\105  
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025\060  
\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151\147  
\156\040\101\107\061\037\060\035\006\003\125\004\003\023\026\123  
\167\151\163\163\123\151\147\156\040\107\157\154\144\040\103\101  
\040\055\040\107\062\060\202\002\042\060\015\006\011\052\206\110  
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002  
\012\002\202\002\001\000\257\344\356\176\213\044\016\022\156\251  
\120\055\026\104\073\222\222\134\312\270\135\204\222\102\023\052  
\274\145\127\202\100\076\127\044\315\120\213\045\052\267\157\374  
\357\242\320\300\037\002\044\112\023\226\217\043\023\346\050\130  
\000\243\107\307\006\247\204\043\053\273\275\226\053\177\125\314  
\213\301\127\037\016\142\145\017\335\075\126\212\163\332\256\176  
\155\272\201\034\176\102\214\040\065\331\103\115\204\372\204\333  
\122\054\363\016\047\167\013\153\277\021\057\162\170\237\056\330  
\076\346\030\067\132\052\162\371\332\142\220\222\225\312\037\234  
\351\263\074\053\313\363\001\023\277\132\317\301\265\012\140\275  
\335\265\231\144\123\270\240\226\263\157\342\046\167\221\214\340  
\142\020\002\237\064\017\244\325\222\063\121\336\276\215\272\204  
\172\140\074\152\333\237\053\354\336\336\001\077\156\115\345\120  
\206\313\264\257\355\104\100\305\312\132\214\332\322\053\174\250  
\356\276\246\345\012\252\016\245\337\005\122\267\125\307\042\135  
\062\152\227\227\143\023\333\311\333\171\066\173\205\072\112\305  
\122\211\371\044\347\235\167\251\202\377\125\034\245\161\151\053  
\321\002\044\362\263\046\324\153\332\004\125\345\301\012\307\155  
\060\067\220\052\344\236\024\063\136\026\027\125\305\133\265\313  
\064\211\222\361\235\046\217\241\007\324\306\262\170\120\333\014  
\014\013\174\013\214\101\327\271\351\335\214\210\367\243\115\262  
\062\314\330\027\332\315\267\316\146\235\324\375\136\377\275\227  
\076\051\165\347\176\247\142\130\257\045\064\245\101\307\075\274  
\015\120\312\003\003\017\010\132\037\225\163\170\142\277\257\162  
\024\151\016\245\345\003\016\170\216\046\050\102\360\007\013\142  
\040\020\147\071\106\372\251\003\314\004\070\172\146\357\040\203  
\265\214\112\126\216\221\000\374\216\134\202\336\210\240\303\342  
\150\156\175\215\357\074\335\145\364\135\254\121\357\044\200\256  
\252\126\227\157\371\255\175\332\141\077\230\167\074\245\221\266  
\034\214\046\332\145\242\011\155\301\342\124\343\271\312\114\114  
\200\217\167\173\140\232\036\337\266\362\110\036\016\272\116\124  
\155\230\340\341\242\032\242\167\120\317\304\143\222\354\107\031  
\235\353\346\153\316\301\002\003\001\000\001\243\201\254\060\201

\251\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\035\006\003\125\035\016\004\026\004\024\133\045\173  
\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347\360  
\356\060\037\006\003\125\035\043\004\030\060\026\200\024\133\045  
\173\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347  
\360\356\060\106\006\003\125\035\040\004\077\060\075\060\073\006  
\011\140\205\164\001\131\001\002\001\001\060\056\060\054\006\010  
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\057\162\145\160\157\163\151\164\157\162\171\056\163\167\151\163  
\163\163\151\147\156\056\143\157\155\057\060\015\006\011\052\206  
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\121\212\307\120\061\156\341\112\176\030\057\151\131\266\075\144  
\201\053\343\203\204\346\042\207\216\175\340\356\002\231\141\270  
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\343\354\027\251\270\334\307\174\001\203\237\062\107\272\122\042  
\064\035\062\172\011\126\247\174\045\066\251\075\113\332\300\202  
\157\012\273\022\310\207\113\047\021\371\036\055\307\223\077\236  
\333\137\046\153\122\331\056\212\361\024\306\104\215\025\251\267  
\277\275\336\246\032\356\256\055\373\110\167\027\376\273\354\257  
\030\365\052\121\360\071\204\227\225\154\156\033\303\053\304\164  
\140\171\045\260\012\047\337\337\136\322\071\317\105\175\102\113  
\337\263\054\036\305\306\135\312\125\072\240\234\151\232\217\332  
\357\262\260\074\237\207\154\022\053\145\160\025\122\061\032\044  
\317\157\061\043\120\037\214\117\217\043\303\164\101\143\034\125  
\250\024\335\076\340\121\120\317\361\033\060\126\016\222\260\202  
\205\330\203\313\042\144\274\055\270\045\325\124\242\270\006\352  
\255\222\244\044\240\301\206\265\112\023\152\107\317\056\013\126  
\225\124\313\316\232\333\152\264\246\262\333\101\010\206\047\167  
\367\152\240\102\154\013\070\316\327\165\120\062\222\302\337\053  
\060\042\110\320\325\101\070\045\135\244\351\135\237\306\224\165  
\320\105\375\060\227\103\217\220\253\012\307\206\163\140\112\151  
\055\336\245\170\327\006\332\152\236\113\076\167\072\040\023\042  
\001\320\277\150\236\143\140\153\065\115\013\155\272\241\075\300  
\223\340\177\043\263\125\255\162\045\116\106\371\322\026\357\260  
\144\301\001\236\351\312\240\152\230\016\317\330\140\362\057\111  
\270\344\102\341\070\065\026\364\310\156\117\367\201\126\350\272  
\243\276\043\257\256\375\157\003\340\002\073\060\166\372\033\155  
\101\317\001\261\351\270\311\146\364\333\046\363\072\244\164\362  
\111\044\133\311\260\320\127\301\372\076\172\341\227\311

END

#

```

Trust for Certificate "SwissSign Gold CA - G2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\330\305\070\212\267\060\033\033\156\324\172\346\105\045\072\157
\237\032\047\141
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\044\167\331\250\221\321\073\372\210\055\302\377\370\315\063\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SwissSign Silver CA - G2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

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\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061  
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123  
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023  
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145  
\162\040\103\101\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\010\117\033\324\057\124\273\057\113

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\275\060\202\003\245\240\003\002\001\002\002\010\117  
\033\324\057\124\273\057\113\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\107\061\013\060\011\006\003\125\004  
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014  
\123\167\151\163\163\123\151\147\156\040\101\107\061\041\060\037  
\006\003\125\004\003\023\030\123\167\151\163\163\123\151\147\156  
\040\123\151\154\166\145\162\040\103\101\040\055\040\107\062\060  
\036\027\015\060\066\061\060\062\065\060\070\063\062\064\066\132  
\027\015\063\066\061\060\062\065\060\070\063\062\064\066\132\060  
\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025  
\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151  
\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023\030  
\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145\162  
\040\103\101\040\055\040\107\062\060\202\002\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000  
\060\202\002\012\002\202\002\001\000\304\361\207\177\323\170\061  
\367\070\311\370\303\231\103\274\307\367\274\067\347\116\161\272  
\113\217\245\163\035\134\156\230\256\003\127\256\070\067\103\057  
\027\075\037\310\316\150\020\301\170\256\031\003\053\020\372\054  
\171\203\366\350\271\150\271\125\362\004\104\247\071\371\374\004  
\213\036\361\242\115\047\371\141\173\272\267\345\242\023\266\353  
\141\076\320\154\321\346\373\372\136\355\035\264\236\240\065\133  
\241\222\313\360\111\222\376\205\012\005\076\346\331\013\342\117  
\273\334\225\067\374\221\351\062\065\042\321\037\072\116\047\205  
\235\260\025\224\062\332\141\015\107\115\140\102\256\222\107\350  
\203\132\120\130\351\212\213\271\135\241\334\335\231\112\037\066  
\147\273\110\344\203\266\067\353\110\072\257\017\147\217\027\007  
\350\004\312\357\152\061\207\324\300\266\371\224\161\173\147\144  
\270\266\221\112\102\173\145\056\060\152\014\365\220\356\225\346  
\362\315\202\354\331\241\112\354\366\262\113\345\105\205\346\155  
\170\223\004\056\234\202\155\066\251\304\061\144\037\206\203\013  
\052\364\065\012\170\311\125\317\101\260\107\351\060\237\231\276  
\141\250\006\204\271\050\172\137\070\331\033\251\070\260\203\177  
\163\301\303\073\110\052\202\017\041\233\270\314\250\065\303\204  
\033\203\263\076\276\244\225\151\001\072\211\000\170\004\331\311  
\364\231\031\253\126\176\133\213\206\071\025\221\244\020\054\011  
\062\200\140\263\223\300\052\266\030\013\235\176\215\111\362\020  
\112\177\371\325\106\057\031\222\243\231\247\046\254\273\214\074

\346\016\274\107\007\334\163\121\361\160\144\057\010\371\264\107  
\035\060\154\104\352\051\067\205\222\150\146\274\203\070\376\173  
\071\056\323\120\360\037\373\136\140\266\251\246\372\047\101\361  
\233\030\162\362\365\204\164\112\311\147\304\124\256\110\144\337  
\214\321\156\260\035\341\007\217\010\036\231\234\161\351\114\330  
\245\367\107\022\037\164\321\121\236\206\363\302\242\043\100\013  
\163\333\113\246\347\163\006\214\301\240\351\301\131\254\106\372  
\346\057\370\317\161\234\106\155\271\304\025\215\070\171\003\105  
\110\357\304\135\327\010\356\207\071\042\206\262\015\017\130\103  
\367\161\251\110\056\375\352\326\037\002\003\001\000\001\243\201  
\254\060\201\251\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034\302  
\230\372\206\130\060\037\006\003\125\035\043\004\030\060\026\200  
\024\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034  
\302\230\372\206\130\060\106\006\003\125\035\040\004\077\060\075  
\060\073\006\011\140\205\164\001\131\001\003\001\001\060\056\060  
\054\006\010\053\006\001\005\005\007\002\001\026\040\150\164\164  
\160\072\057\057\162\145\160\157\163\151\164\157\162\171\056\163  
\167\151\163\163\163\151\147\156\056\143\157\155\057\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001  
\000\163\306\201\340\047\322\055\017\340\225\060\342\232\101\177  
\120\054\137\137\142\141\251\206\152\151\030\014\164\111\326\135  
\204\352\101\122\030\157\130\255\120\126\040\152\306\275\050\151  
\130\221\334\221\021\065\251\072\035\274\032\245\140\236\330\037  
\177\105\221\151\331\176\273\170\162\301\006\017\052\316\217\205  
\160\141\254\240\315\013\270\071\051\126\204\062\116\206\273\075  
\304\052\331\327\037\162\356\376\121\241\042\101\261\161\002\143  
\032\202\260\142\253\136\127\022\037\337\313\335\165\240\300\135  
\171\220\214\033\340\120\346\336\061\376\230\173\160\137\245\220  
\330\255\370\002\266\157\323\140\335\100\113\042\305\075\255\072  
\172\237\032\032\107\221\171\063\272\202\334\062\151\003\226\156  
\037\113\360\161\376\343\147\162\240\261\277\134\213\344\372\231  
\042\307\204\271\033\215\043\227\077\355\045\340\317\145\273\365  
\141\004\357\335\036\262\132\101\042\132\241\237\135\054\350\133  
\311\155\251\014\014\170\252\140\306\126\217\001\132\014\150\274  
\151\031\171\304\037\176\227\005\277\305\351\044\121\136\324\325  
\113\123\355\331\043\132\066\003\145\243\301\003\255\101\060\363  
\106\033\205\220\257\145\265\325\261\344\026\133\170\165\035\227  
\172\155\131\251\052\217\173\336\303\207\211\020\231\111\163\170  
\310\075\275\121\065\164\052\325\361\176\151\033\052\273\073\275  
\045\270\232\132\075\162\141\220\146\207\356\014\326\115\324\021  
\164\013\152\376\013\003\374\243\125\127\211\376\112\313\256\133  
\027\005\310\362\215\043\061\123\070\322\055\152\077\202\271\215  
\010\152\367\136\101\164\156\303\021\176\007\254\051\140\221\077  
\070\312\127\020\015\275\060\057\307\245\346\101\240\332\256\005  
\207\232\240\244\145\154\114\011\014\211\272\270\323\271\300\223

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\212\060\372\215\345\232\153\025\001\116\147\252\332\142\126\076
\204\010\146\322\304\066\175\247\076\020\374\210\340\324\200\345
\000\275\252\363\116\006\243\172\152\371\142\162\343\011\117\353
\233\016\001\043\361\237\273\174\334\334\154\021\227\045\262\362
\264\143\024\322\006\052\147\214\203\365\316\352\007\330\232\152
\036\354\344\012\273\052\114\353\011\140\071\316\312\142\330\056
\156
END
```

```
#
Trust for Certificate "SwissSign Silver CA - G2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\233\252\345\237\126\356\041\313\103\132\276\045\223\337\247\360
\100\321\035\313
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\340\006\241\311\175\317\311\374\015\300\126\165\226\330\142\023
END
CKA_ISSUER
MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\117\033\324\057\124\273\057\113
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "GeoTrust Primary Certification Authority"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Primary Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

CKA\_SUBJECT

MULTILINE\_OCTAL

\060\130\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165  
\163\164\040\111\156\143\056\061\061\060\057\006\003\125\004\003  
\023\050\107\145\157\124\162\165\163\164\040\120\162\151\155\141  
\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\130\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165  
\163\164\040\111\156\143\056\061\061\060\057\006\003\125\004\003  
\023\050\107\145\157\124\162\165\163\164\040\120\162\151\155\141  
\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157\156  
\040\101\165\164\150\157\162\151\164\171

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\020\030\254\265\152\375\151\266\025\072\143\154\257\332\372  
\304\241

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\174\060\202\002\144\240\003\002\001\002\002\020\030  
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\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\130  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\026\060  
\024\006\003\125\004\012\023\015\107\145\157\124\162\165\163\164  
\040\111\156\143\056\061\061\060\057\006\003\125\004\003\023\050  
\107\145\157\124\162\165\163\164\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\060\036\027\015\060\066\061\061  
\062\067\060\060\060\060\060\060\132\027\015\063\066\060\067\061  
\066\062\063\065\071\065\071\132\060\130\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004\012  
\023\015\107\145\157\124\162\165\163\164\040\111\156\143\056\061  
\061\060\057\006\003\125\004\003\023\050\107\145\157\124\162\165  
\163\164\040\120\162\151\155\141\162\171\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\276\270\025\173\377\324\174\175\147\255\203\144\173  
\310\102\123\055\337\366\204\010\040\141\326\001\131\152\234\104  
\021\257\357\166\375\225\176\316\141\060\273\172\203\137\002\275  
\001\146\312\356\025\215\157\241\060\234\275\241\205\236\224\072  
\363\126\210\000\061\317\330\356\152\226\002\331\355\003\214\373  
\165\155\347\352\270\125\026\005\026\232\364\340\136\261\210\300  
\144\205\134\025\115\210\307\267\272\340\165\351\255\005\075\235



\307\211\110\340\273\050\310\003\341\060\223\144\136\122\300\131  
\160\042\065\127\210\212\361\225\012\203\327\274\061\163\001\064  
\355\357\106\161\340\153\002\250\065\162\153\227\233\146\340\313  
\034\171\137\330\032\004\150\036\107\002\346\235\140\342\066\227  
\001\337\316\065\222\337\276\147\307\155\167\131\073\217\235\326  
\220\025\224\274\102\064\020\301\071\371\261\047\076\176\326\212  
\165\305\262\257\226\323\242\336\233\344\230\276\175\341\351\201  
\255\266\157\374\327\016\332\340\064\260\015\032\167\347\343\010  
\230\357\130\372\234\204\267\066\257\302\337\254\322\364\020\006  
\160\161\065\002\003\001\000\001\243\102\060\100\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006  
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006  
\003\125\035\016\004\026\004\024\054\325\120\101\227\025\213\360  
\217\066\141\133\112\373\153\331\231\311\063\222\060\015\006\011  
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000  
\132\160\177\054\335\267\064\117\365\206\121\251\046\276\113\270  
\252\361\161\015\334\141\307\240\352\064\036\172\167\017\004\065  
\350\047\217\154\220\277\221\026\044\106\076\112\116\316\053\026  
\325\013\122\035\374\037\147\242\002\105\061\117\316\363\372\003  
\247\171\235\123\152\331\332\143\072\370\200\327\323\231\341\245  
\341\276\324\125\161\230\065\072\276\223\352\256\255\102\262\220  
\157\340\374\041\115\065\143\063\211\111\326\233\116\312\307\347  
\116\011\000\367\332\307\357\231\142\231\167\266\225\042\136\212  
\240\253\364\270\170\230\312\070\031\231\311\162\236\170\315\113  
\254\257\031\240\163\022\055\374\302\101\272\201\221\332\026\132  
\061\267\371\264\161\200\022\110\231\162\163\132\131\123\301\143  
\122\063\355\247\311\322\071\002\160\372\340\261\102\146\051\252  
\233\121\355\060\124\042\024\137\331\253\035\301\344\224\360\370  
\365\053\367\352\312\170\106\326\270\221\375\246\015\053\032\024  
\001\076\200\360\102\240\225\007\136\155\315\314\113\244\105\215  
\253\022\350\263\336\132\345\240\174\350\017\042\035\132\351\131  
END

#

Trust for Certificate "GeoTrust Primary Certification Authority"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "GeoTrust Primary Certification Authority"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\062\074\021\216\033\367\270\266\122\124\342\342\020\015\326\002  
\220\067\360\226  
END  
CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
\002\046\303\001\136\010\060\067\103\251\320\175\317\067\346\277  
END  
CKA\_ISSUER

```

MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165
\163\164\040\111\156\143\056\061\061\060\057\006\003\125\004\003
\023\050\107\145\157\124\162\165\163\164\040\120\162\151\155\141
\162\171\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\030\254\265\152\375\151\266\025\072\143\154\257\332\372
\304\241
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "thawte Primary Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "thawte
Primary Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\251\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157
\156\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040
\062\060\060\066\040\164\150\141\167\164\145\054\040\111\156\143
\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172
\145\144\040\165\163\145\040\157\156\154\171\061\037\060\035\006
\003\125\004\003\023\026\164\150\141\167\164\145\040\120\162\151
\155\141\162\171\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\251\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157
\156\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040

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\062\060\060\066\040\164\150\141\167\164\145\054\040\111\156\143  
\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172  
\145\144\040\165\163\145\040\157\156\154\171\061\037\060\035\006  
\003\125\004\003\023\026\164\150\141\167\164\145\040\120\162\151  
\155\141\162\171\040\122\157\157\164\040\103\101

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\064\116\325\127\040\325\355\354\111\364\057\316\067\333  
\053\155

END

CKA\_VALUE MULTILINE\_OCTAL

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\116\325\127\040\325\355\354\111\364\057\316\067\333\053\155\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\251\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025  
\060\023\006\003\125\004\012\023\014\164\150\141\167\164\145\054  
\040\111\156\143\056\061\050\060\046\006\003\125\004\013\023\037  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\040\104\151\166\151\163\151\157\156\061  
\070\060\066\006\003\125\004\013\023\057\050\143\051\040\062\060  
\060\066\040\164\150\141\167\164\145\054\040\111\156\143\056\040  
\055\040\106\157\162\040\141\165\164\150\157\162\151\172\145\144  
\040\165\163\145\040\157\156\154\171\061\037\060\035\006\003\125  
\004\003\023\026\164\150\141\167\164\145\040\120\162\151\155\141  
\162\171\040\122\157\157\164\040\103\101\060\036\027\015\060\066  
\061\061\061\067\060\060\060\060\060\060\132\027\015\063\066\060  
\067\061\066\062\063\065\071\065\071\132\060\201\251\061\013\060  
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003  
\125\004\012\023\014\164\150\141\167\164\145\054\040\111\156\143  
\056\061\050\060\046\006\003\125\004\013\023\037\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143  
\145\163\040\104\151\166\151\163\151\157\156\061\070\060\066\006  
\003\125\004\013\023\057\050\143\051\040\062\060\060\066\040\164  
\150\141\167\164\145\054\040\111\156\143\056\040\055\040\106\157  
\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145  
\040\157\156\154\171\061\037\060\035\006\003\125\004\003\023\026  
\164\150\141\167\164\145\040\120\162\151\155\141\162\171\040\122  
\157\157\164\040\103\101\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\254\240\360\373\200\131\324\234\307  
\244\317\235\241\131\163\011\020\105\014\015\054\156\150\361\154  
\133\110\150\111\131\067\374\013\063\031\302\167\177\314\020\055  
\225\064\034\346\353\115\011\247\034\322\270\311\227\066\002\267  
\211\324\044\137\006\300\314\104\224\224\215\002\142\157\353\132  
\335\021\215\050\232\134\204\220\020\172\015\275\164\146\057\152  
\070\240\342\325\124\104\353\035\007\237\007\272\157\356\351\375  
\116\013\051\365\076\204\240\001\361\234\253\370\034\176\211\244

\350\241\330\161\145\015\243\121\173\356\274\322\042\140\015\271  
\133\235\337\272\374\121\133\013\257\230\262\351\056\351\004\350  
\142\207\336\053\310\327\116\301\114\144\036\335\317\207\130\272  
\112\117\312\150\007\035\034\235\112\306\325\057\221\314\174\161  
\162\034\305\300\147\353\062\375\311\222\134\224\332\205\300\233  
\277\123\175\053\011\364\214\235\221\037\227\152\122\313\336\011  
\066\244\167\330\173\207\120\104\325\076\156\051\151\373\071\111  
\046\036\011\245\200\173\100\055\353\350\047\205\311\376\141\375  
\176\346\174\227\035\325\235\002\003\001\000\001\243\102\060\100  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\035\006\003\125\035\016\004\026\004\024\173\133\105\317  
\257\316\313\172\375\061\222\032\152\266\363\106\353\127\110\120  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\171\021\300\113\263\221\266\374\360\351\147\324  
\015\156\105\276\125\350\223\322\316\003\077\355\332\045\260\035  
\127\313\036\072\166\240\114\354\120\166\350\144\162\014\244\251  
\361\270\213\326\326\207\204\273\062\345\101\021\300\167\331\263  
\140\235\353\033\325\321\156\104\104\251\246\001\354\125\142\035  
\167\270\134\216\110\111\174\234\073\127\021\254\255\163\067\216  
\057\170\134\220\150\107\331\140\140\346\374\007\075\042\040\027  
\304\367\026\351\304\330\162\371\310\163\174\337\026\057\025\251  
\076\375\152\047\266\241\353\132\272\230\037\325\343\115\144\012  
\235\023\310\141\272\365\071\034\207\272\270\275\173\042\177\366  
\376\254\100\171\345\254\020\157\075\217\033\171\166\213\304\067  
\263\041\030\204\345\066\000\353\143\040\231\271\351\376\063\004  
\273\101\310\301\002\371\104\143\040\236\201\316\102\323\326\077  
\054\166\323\143\234\131\335\217\246\341\016\240\056\101\367\056  
\225\107\317\274\375\063\363\366\013\141\176\176\221\053\201\107  
\302\047\060\356\247\020\135\067\217\134\071\053\344\004\360\173  
\215\126\214\150

END

#

Trust for Certificate "thawte Primary Root CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "thawte Primary Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\221\306\326\356\076\212\310\143\204\345\110\302\231\051\134\165  
\154\201\173\201

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\214\312\334\013\042\316\365\276\162\254\101\032\021\250\330\022

END

CKA\_ISSUER MULTILINE\_OCTAL

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\060\201\251\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157
\156\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040
\062\060\060\066\040\164\150\141\167\164\145\054\040\111\156\143
\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172
\145\144\040\165\163\145\040\157\156\154\171\061\037\060\035\006
\003\125\004\003\023\026\164\150\141\167\164\145\040\120\162\151
\155\141\162\171\040\122\157\157\164\040\103\101
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\020\064\116\325\127\040\325\355\354\111\364\057\316\067\333
\053\155
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "VeriSign Class 3 Public Primary Certification Authority - G5"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "VeriSign Class 3 Public Primary Certification Authority - G5"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\062\060\060\066\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\063\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\065
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123  
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123  
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125  
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165  
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\125\004\013\023\061\050\143\051\040\062\060\060\066\040\126\145  
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106  
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163  
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023  
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040  
\063\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171  
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101  
\165\164\150\157\162\151\164\171\040\055\040\107\065

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\030\332\321\236\046\175\350\273\112\041\130\315\314\153  
\073\112

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\323\060\202\003\273\240\003\002\001\002\002\020\030  
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\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\312\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027  
\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151\147  
\156\054\040\111\156\143\056\061\037\060\035\006\003\125\004\013  
\023\026\126\145\162\151\123\151\147\156\040\124\162\165\163\164  
\040\116\145\164\167\157\162\153\061\072\060\070\006\003\125\004  
\013\023\061\050\143\051\040\062\060\060\066\040\126\145\162\151  
\123\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162  
\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040  
\157\156\154\171\061\105\060\103\006\003\125\004\003\023\074\126  
\145\162\151\123\151\147\156\040\103\154\141\163\163\040\063\040  
\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\040\055\040\107\065\060\036\027\015\060  
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\060\067\061\066\062\063\065\071\065\071\132\060\201\312\061\013  
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\111\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126  
\145\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145  
\164\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061  
\050\143\051\040\062\060\060\066\040\126\145\162\151\123\151\147  
\156\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165  
\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154

\171\061\105\060\103\006\003\125\004\003\023\074\126\145\162\151  
\123\151\147\156\040\103\154\141\163\163\040\063\040\120\165\142  
\154\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\040\055\040\107\065\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
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\236\140\014\252\347\113\073\116\334\174\274\074\105\034\273\053  
\340\376\051\002\371\127\010\243\144\205\025\047\365\361\255\310  
\061\211\135\042\350\052\252\246\102\263\217\370\271\125\267\261  
\267\113\263\376\217\176\007\127\354\357\103\333\146\142\025\141  
\317\140\015\244\330\336\370\340\303\142\010\075\124\023\353\111  
\312\131\124\205\046\345\053\217\033\237\353\365\241\221\302\063  
\111\330\103\143\152\122\113\322\217\350\160\121\115\321\211\151  
\173\307\160\366\263\334\022\164\333\173\135\113\126\323\226\277  
\025\167\241\260\364\242\045\362\257\034\222\147\030\345\364\006  
\004\357\220\271\344\000\344\335\072\265\031\377\002\272\364\074  
\356\340\213\353\067\213\354\364\327\254\362\366\360\075\257\335  
\165\221\063\031\035\034\100\313\164\044\031\041\223\331\024\376  
\254\052\122\307\217\325\004\111\344\215\143\107\210\074\151\203  
\313\376\107\275\053\176\117\305\225\256\016\235\324\321\103\300  
\147\163\343\024\010\176\345\077\237\163\270\063\012\317\135\077  
\064\207\226\212\356\123\350\045\025\002\003\001\000\001\243\201  
\262\060\201\257\060\017\006\003\125\035\023\001\001\377\004\005  
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\004\003\002\001\006\060\155\006\010\053\006\001\005\005\007\001  
\014\004\141\060\137\241\135\240\133\060\131\060\127\060\125\026  
\011\151\155\141\147\145\057\147\151\146\060\041\060\037\060\007  
\006\005\053\016\003\002\032\004\024\217\345\323\032\206\254\215  
\216\153\303\317\200\152\324\110\030\054\173\031\056\060\045\026  
\043\150\164\164\160\072\057\057\154\157\147\157\056\166\145\162  
\151\163\151\147\156\056\143\157\155\057\166\163\154\157\147\157  
\056\147\151\146\060\035\006\003\125\035\016\004\026\004\024\177  
\323\145\247\302\335\354\273\360\060\011\363\103\071\372\002\257  
\063\061\063\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\003\202\001\001\000\223\044\112\060\137\142\317\330\032  
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\247\240\170\022\255\142\016\105\160\144\305\347\227\146\055\230  
\011\176\137\257\326\314\050\145\362\001\252\010\032\107\336\371  
\371\174\222\132\010\151\040\015\331\076\155\156\074\015\156\330  
\346\006\221\100\030\271\370\301\355\337\333\101\252\340\226\040  
\311\315\144\025\070\201\311\224\356\242\204\051\013\023\157\216  
\333\014\335\045\002\333\244\213\031\104\322\101\172\005\151\112  
\130\117\140\312\176\202\152\013\002\252\045\027\071\265\333\177  
\347\204\145\052\225\212\275\206\336\136\201\026\203\055\020\314  
\336\375\250\202\052\155\050\037\015\013\304\345\347\032\046\031  
\341\364\021\157\020\265\225\374\347\102\005\062\333\316\235\121  
\136\050\266\236\205\323\133\357\245\175\105\100\162\216\267\016

```
\153\016\006\373\063\065\110\161\270\235\047\213\304\145\137\015
\206\166\234\104\172\366\225\134\366\135\062\010\063\244\124\266
\030\077\150\134\362\102\112\205\070\124\203\137\321\350\054\362
\254\021\326\250\355\143\152
END
```

```
#
```

```
Trust for Certificate "VeriSign Class 3 Public Primary Certification Authority - G5"
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL
```

```
UTF8 "VeriSign Class 3 Public Primary Certification Authority - G5"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\116\266\325\170\111\233\034\317\137\130\036\255\126\276\075\233
\147\104\245\345
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\313\027\344\061\147\076\342\011\376\105\127\223\363\012\372\034
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\062\060\060\066\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\063\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\065
```

```
END
```

```
CKA_SERIAL_NUMBER
```

```
MULTILINE_OCTAL
```

```
\002\020\030\332\321\236\046\175\350\273\112\041\130\315\314\153
\073\112
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "SecureTrust CA"
```



```
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\270\060\202\002\240\240\003\002\001\002\002\020\014
\360\216\134\010\026\245\255\102\177\360\353\047\030\131\320\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\110
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\027\060\025\006\003\125\004\003\023\016\123\145\143\165\162\145
\124\162\165\163\164\040\103\101\060\036\027\015\060\066\061\061
\060\067\061\071\063\061\061\070\132\027\015\062\071\061\062\063
\061\061\071\064\060\065\065\132\060\110\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012
\023\027\123\145\143\165\162\145\124\162\165\163\164\040\103\157
\162\160\157\162\141\164\151\157\156\061\027\060\025\006\003\125
\004\003\023\016\123\145\143\165\162\145\124\162\165\163\164\040
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\253\244\201\345\225\315\365\366\024\216\302\117\312
\324\342\170\225\130\234\101\341\015\231\100\044\027\071\221\063
\146\351\276\341\203\257\142\134\211\321\374\044\133\141\263\340
\021\021\101\034\035\156\360\270\273\370\336\247\201\272\246\110
```

\306\237\035\275\276\216\251\101\076\270\224\355\051\032\324\216  
\322\003\035\003\357\155\015\147\034\127\327\006\255\312\310\365  
\376\016\257\146\045\110\004\226\013\135\243\272\026\303\010\117  
\321\106\370\024\134\362\310\136\001\231\155\375\210\314\206\250  
\301\157\061\102\154\122\076\150\313\363\031\064\337\273\207\030  
\126\200\046\304\320\334\300\157\337\336\240\302\221\026\240\144  
\021\113\104\274\036\366\347\372\143\336\146\254\166\244\161\243  
\354\066\224\150\172\167\244\261\347\016\057\201\172\342\265\162  
\206\357\242\153\213\360\017\333\323\131\077\272\162\274\104\044  
\234\343\163\263\367\257\127\057\102\046\235\251\164\272\000\122  
\362\113\315\123\174\107\013\066\205\016\146\251\010\227\026\064  
\127\301\146\367\200\343\355\160\124\307\223\340\056\050\025\131  
\207\272\273\002\003\001\000\001\243\201\235\060\201\232\060\023  
\006\011\053\006\001\004\001\202\067\024\002\004\006\036\004\000  
\103\000\101\060\013\006\003\125\035\017\004\004\003\002\001\206  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\102\062\266\026  
\372\004\375\376\135\113\172\303\375\367\114\100\035\132\103\257  
\060\064\006\003\125\035\037\004\055\060\053\060\051\240\047\240  
\045\206\043\150\164\164\160\072\057\057\143\162\154\056\163\145  
\143\165\162\145\164\162\165\163\164\056\143\157\155\057\123\124  
\103\101\056\143\162\154\060\020\006\011\053\006\001\004\001\202  
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\060\355\117\112  
\341\130\072\122\162\133\265\246\243\145\030\246\273\121\073\167  
\351\235\352\323\237\134\340\105\145\173\015\312\133\342\160\120  
\262\224\005\024\256\111\307\215\101\007\022\163\224\176\014\043  
\041\375\274\020\177\140\020\132\162\365\230\016\254\354\271\177  
\335\172\157\135\323\034\364\377\210\005\151\102\251\005\161\310  
\267\254\046\350\056\264\214\152\377\161\334\270\261\337\231\274  
\174\041\124\053\344\130\242\273\127\051\256\236\251\243\031\046  
\017\231\056\010\260\357\375\151\317\231\032\011\215\343\247\237  
\053\311\066\064\173\044\263\170\114\225\027\244\006\046\036\266  
\144\122\066\137\140\147\331\234\305\005\164\013\347\147\043\322  
\010\374\210\351\256\213\177\341\060\364\067\176\375\306\062\332  
\055\236\104\060\060\154\356\007\336\322\064\374\322\377\100\366  
\113\364\146\106\006\124\246\362\062\012\143\046\060\153\233\321  
\334\213\107\272\341\271\325\142\320\242\240\364\147\005\170\051  
\143\032\157\004\326\370\306\114\243\232\261\067\264\215\345\050  
\113\035\236\054\302\270\150\274\355\002\356\061

END

#

Trust for Certificate "SecureTrust CA"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\207\202\306\303\004\065\073\317\322\226\222\322\131\076\175\104
\331\064\377\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\334\062\303\247\155\045\127\307\150\011\235\352\055\251\242\321
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Secure Global CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165

```

\162\145\040\107\154\157\142\141\154\040\103\101  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370  
\352\245  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\274\060\202\002\244\240\003\002\001\002\002\020\007  
\126\042\244\350\324\212\211\115\364\023\310\360\370\352\245\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\112  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060  
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162  
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061  
\031\060\027\006\003\125\004\003\023\020\123\145\143\165\162\145  
\040\107\154\157\142\141\154\040\103\101\060\036\027\015\060\066  
\061\061\060\067\061\071\064\062\062\070\132\027\015\062\071\061  
\062\063\061\061\071\065\062\060\066\132\060\112\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003\125  
\004\012\023\027\123\145\143\165\162\145\124\162\165\163\164\040  
\103\157\162\160\157\162\141\164\151\157\156\061\031\060\027\006  
\003\125\004\003\023\020\123\145\143\165\162\145\040\107\154\157  
\142\141\154\040\103\101\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\257\065\056\330\254\154\125\151\006  
\161\345\023\150\044\263\117\330\314\041\107\370\361\140\070\211  
\211\003\351\275\352\136\106\123\011\334\134\365\132\350\367\105  
\052\002\353\061\141\327\051\063\114\316\307\174\012\067\176\017  
\272\062\230\341\035\227\257\217\307\334\311\070\226\363\333\032  
\374\121\355\150\306\320\156\244\174\044\321\256\102\310\226\120  
\143\056\340\376\165\376\230\247\137\111\056\225\343\071\063\144  
\216\036\244\137\220\322\147\074\262\331\376\101\271\125\247\011  
\216\162\005\036\213\335\104\205\202\102\320\111\300\035\140\360  
\321\027\054\225\353\366\245\301\222\243\305\302\247\010\140\015  
\140\004\020\226\171\236\026\064\346\251\266\372\045\105\071\310  
\036\145\371\223\365\252\361\122\334\231\230\075\245\206\032\014  
\065\063\372\113\245\004\006\025\034\061\200\357\252\030\153\302  
\173\327\332\316\371\063\040\325\365\275\152\063\055\201\004\373  
\260\134\324\234\243\342\134\035\343\251\102\165\136\173\324\167  
\357\071\124\272\311\012\030\033\022\231\111\057\210\113\375\120  
\142\321\163\347\217\172\103\002\003\001\000\001\243\201\235\060  
\201\232\060\023\006\011\053\006\001\004\001\202\067\024\002\004  
\006\036\004\000\103\000\101\060\013\006\003\125\035\017\004\004  
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005  
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024  
\257\104\004\302\101\176\110\203\333\116\071\002\354\354\204\172  
\346\316\311\244\060\064\006\003\125\035\037\004\055\060\053\060  
\051\240\047\240\045\206\043\150\164\164\160\072\057\057\143\162  
\154\056\163\145\143\165\162\145\164\162\165\163\164\056\143\157

```
\155\057\123\107\103\101\056\143\162\154\060\020\006\011\053\006
\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\143\032\010\100\175\244\136\123\015\167\330\172\256\037\015\013
\121\026\003\357\030\174\310\343\257\152\130\223\024\140\221\262
\204\334\210\116\276\071\212\072\363\346\202\211\135\001\067\263
\253\044\244\025\016\222\065\132\112\104\136\116\127\372\165\316
\037\110\316\146\364\074\100\046\222\230\154\033\356\044\106\014
\027\263\122\245\333\245\221\221\317\067\323\157\347\047\010\072
\116\031\037\072\247\130\134\027\317\171\077\213\344\247\323\046
\043\235\046\017\130\151\374\107\176\262\320\215\213\223\277\051
\117\103\151\164\166\147\113\317\007\214\346\002\367\265\341\264
\103\265\113\055\024\237\371\334\046\015\277\246\107\164\006\330
\210\321\072\051\060\204\316\322\071\200\142\033\250\307\127\111
\274\152\125\121\147\025\112\276\065\007\344\325\165\230\067\171
\060\024\333\051\235\154\305\151\314\107\125\242\060\367\314\134
\177\302\303\230\034\153\116\026\200\353\172\170\145\105\242\000
\032\257\014\015\125\144\064\110\270\222\271\361\264\120\051\362
\117\043\037\332\154\254\037\104\341\335\043\170\121\133\307\026
END
```

#

Trust for Certificate "Secure Global CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Secure Global CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\072\104\163\132\345\201\220\037\044\206\141\106\036\073\234\304
\137\365\072\033
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\317\364\047\015\324\355\334\145\026\111\155\075\332\277\156\336
```

END

CKA\_ISSUER

MULTILINE\_OCTAL

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "COMODO Certification Authority"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO Certification Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006  
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102  
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164  
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060  
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061  
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117  
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006  
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106  
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END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\035\060\202\003\005\240\003\002\001\002\002\020\116  
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\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201  
\201\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033  
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162

\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006  
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060  
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103  
\101\040\114\151\155\151\164\145\144\061\047\060\045\006\003\125  
\004\003\023\036\103\117\115\117\104\117\040\103\145\162\164\151  
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151  
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060  
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065  
\071\132\060\201\201\061\013\060\011\006\003\125\004\006\023\002  
\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162\145  
\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162\061  
\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157\162  
\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115\117  
\104\117\040\103\101\040\114\151\155\151\164\145\144\061\047\060  
\045\006\003\125\004\003\023\036\103\117\115\117\104\117\040\103  
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164  
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\320\100\213\213\162\343\221\033\367  
\121\301\033\124\004\230\323\251\277\301\346\212\135\073\207\373  
\273\210\316\015\343\057\077\006\226\360\242\051\120\231\256\333  
\073\241\127\260\164\121\161\315\355\102\221\115\101\376\251\310  
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\330\272\071\174\034\236\243\044\235\362\203\026\230\252\026\174  
\103\233\025\133\267\256\064\221\376\324\142\046\030\106\232\077  
\353\301\371\361\220\127\353\254\172\015\213\333\162\060\152\146  
\325\340\106\243\160\334\150\331\377\004\110\211\167\336\265\351  
\373\147\155\101\351\274\071\275\062\331\142\002\361\261\250\075  
\156\067\234\342\057\342\323\242\046\213\306\270\125\103\210\341  
\043\076\245\322\044\071\152\107\253\000\324\241\263\251\045\376  
\015\077\247\035\272\323\121\301\013\244\332\254\070\357\125\120  
\044\005\145\106\223\064\117\055\215\255\306\324\041\031\322\216  
\312\005\141\161\007\163\107\345\212\031\022\275\004\115\316\116  
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\213\306\114\025\067\244\100\251\060\251\041\276\107\066\132\126  
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\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\111\006\003\125\035\037\004\102\060\100\060\076\240  
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\117\104\117\103\145\162\164\151\146\151\143\141\164\151\157\156  
\101\165\164\150\157\162\151\164\171\056\143\162\154\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
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\111\323\207\344\103\202\353\077\311\252\365\250\265\357\125\174  
\041\122\145\371\325\015\341\154\364\076\214\223\163\221\056\002

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\304\116\007\161\157\300\217\070\141\010\250\036\201\012\300\057
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\310\000\055\061\106\114\355\347\235\317\210\224\377\063\300\126
\350\044\206\046\270\330\070\070\337\052\153\335\022\314\307\077
\107\027\114\242\302\006\226\011\326\333\376\077\074\106\101\337
\130\342\126\017\074\073\301\034\223\065\331\070\122\254\356\310
\354\056\060\116\224\065\264\044\037\113\170\151\332\362\002\070
\314\225\122\223\360\160\045\131\234\040\147\304\356\371\213\127
\141\364\222\166\175\077\204\215\125\267\350\345\254\325\361\365
\031\126\246\132\373\220\034\257\223\353\345\034\324\147\227\135
\004\016\276\013\203\246\027\203\271\060\022\240\305\063\025\005
\271\015\373\307\005\166\343\330\112\215\374\064\027\243\306\041
\050\276\060\105\061\036\307\170\276\130\141\070\254\073\342\001
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END
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Trust for Certificate "COMODO Certification Authority"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\146\061\277\236\367\117\236\266\311\325\246\014\272\152\276\321
\367\275\357\173
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END

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CKA_CERT_MD5_HASH MULTILINE_OCTAL
\134\110\334\367\102\162\354\126\224\155\034\314\161\065\200\165
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CKA\_ISSUER

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MULTILINE_OCTAL
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\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
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END

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CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
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END

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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
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CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "DigiNotar Root CA"

#

CKA\_CLASS

CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiNotar Root CA"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
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\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151  
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061  
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CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\074\114

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CKA\_VALUE MULTILINE\_OCTAL

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\027\015\062\065\060\063\063\061\061\070\061\071\062\061\132\060  
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\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164  
\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147  
\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040  
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\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154  
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001  
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\075\271\261\165\207\272\121\110\350\213\160\076\225\004\305\330  
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\052\155\204\100\205\116\166\231\174\202\363\363\267\002\131\324  
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\153\232\144\136\343\320\074\345\261\353\173\135\206\373\313\346  
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\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216  
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\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125  
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\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153  
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\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150  
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307  
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050  
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350  
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013  
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\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235  
\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146  
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\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124  
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163  
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056  
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175  
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163  
\262\345\214\360\206\231\270\345\305\337\204\301\267\353

END

#

Trust for Certificate "DigiNotar Root CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "DigiNotar Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\300\140\355\104\313\330\201\275\016\370\154\013\242\207\335\317  
\201\147\107\214

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\172\171\124\115\007\222\073\133\377\101\360\016\307\071\242\230

END

CKA\_ISSUER MULTILINE\_OCTAL

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\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
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CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\020\014\166\332\234\221\014\116\054\236\376\025\320\130\223
\074\114
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END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Network Solutions Certificate Authority"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Network Solutions Certificate Authority"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\103\056\061\060\060\056\006\003\125\004\003\023\047\116\145\164
\167\157\162\153\040\123\157\154\165\164\151\157\156\163\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\041\060\037\006\003\125\004\012\023\030\116\145\164\167\157\162
\153\040\123\157\154\165\164\151\157\156\163\040\114\056\114\056
\103\056\061\060\060\056\006\003\125\004\003\023\047\116\145\164
\167\157\162\153\040\123\157\154\165\164\151\157\156\163\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\127\313\063\157\302\134\026\346\107\026\027\343\220\061  
\150\340

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\346\060\202\002\316\240\003\002\001\002\002\020\127  
\313\063\157\302\134\026\346\107\026\027\343\220\061\150\340\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\142  
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041\060  
\037\006\003\125\004\012\023\030\116\145\164\167\157\162\153\040  
\123\157\154\165\164\151\157\156\163\040\114\056\114\056\103\056  
\061\060\060\056\006\003\125\004\003\023\047\116\145\164\167\157  
\162\153\040\123\157\154\165\164\151\157\156\163\040\103\145\162  
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151  
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060  
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065  
\071\132\060\142\061\013\060\011\006\003\125\004\006\023\002\125  
\123\061\041\060\037\006\003\125\004\012\023\030\116\145\164\167  
\157\162\153\040\123\157\154\165\164\151\157\156\163\040\114\056  
\114\056\103\056\061\060\060\056\006\003\125\004\003\023\047\116  
\145\164\167\157\162\153\040\123\157\154\165\164\151\157\156\163  
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164  
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206  
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202  
\001\012\002\202\001\001\000\344\274\176\222\060\155\306\330\216  
\053\013\274\106\316\340\047\226\336\336\371\372\022\323\074\063  
\163\263\004\057\274\161\214\345\237\266\042\140\076\137\135\316  
\011\377\202\014\033\232\121\120\032\046\211\335\325\141\135\031  
\334\022\017\055\012\242\103\135\027\320\064\222\040\352\163\317  
\070\054\006\046\011\172\162\367\372\120\062\370\302\223\323\151  
\242\043\316\101\261\314\344\325\037\066\321\212\072\370\214\143  
\342\024\131\151\355\015\323\177\153\350\270\003\345\117\152\345  
\230\143\151\110\005\276\056\377\063\266\351\227\131\151\370\147  
\031\256\223\141\226\104\025\323\162\260\077\274\152\175\354\110  
\177\215\303\253\252\161\053\123\151\101\123\064\265\260\271\305  
\006\012\304\260\105\365\101\135\156\211\105\173\075\073\046\214  
\164\302\345\322\321\175\262\021\324\373\130\062\042\232\200\311  
\334\375\014\351\177\136\003\227\316\073\000\024\207\047\160\070  
\251\216\156\263\047\166\230\121\340\005\343\041\253\032\325\205  
\042\074\051\265\232\026\305\200\250\364\273\153\060\217\057\106  
\002\242\261\014\042\340\323\002\003\001\000\001\243\201\227\060  
\201\224\060\035\006\003\125\035\016\004\026\004\024\041\060\311  
\373\000\327\116\230\332\207\252\052\320\247\056\261\100\061\247  
\114\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001  
\001\377\060\122\006\003\125\035\037\004\113\060\111\060\107\240  
\105\240\103\206\101\150\164\164\160\072\057\057\143\162\154\056  
\156\145\164\163\157\154\163\163\154\056\143\157\155\057\116\145

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\164\167\157\162\153\123\157\154\165\164\151\157\156\163\103\145
\162\164\151\146\151\143\141\164\145\101\165\164\150\157\162\151
\164\171\056\143\162\154\060\015\006\011\052\206\110\206\367\015
\001\001\005\005\000\003\202\001\001\000\273\256\113\347\267\127
\353\177\252\055\267\163\107\205\152\301\344\245\035\344\347\074
\351\364\131\145\167\265\172\133\132\215\045\066\340\172\227\056
\070\300\127\140\203\230\006\203\237\271\166\172\156\120\340\272
\210\054\374\105\314\030\260\231\225\121\016\354\035\270\210\377
\207\120\034\202\302\343\340\062\200\277\240\013\107\310\303\061
\357\231\147\062\200\117\027\041\171\014\151\134\336\136\064\256
\002\265\046\352\120\337\177\030\145\054\311\362\143\341\251\007
\376\174\161\037\153\063\044\152\036\005\367\005\150\300\152\022
\313\056\136\141\313\256\050\323\176\302\264\146\221\046\137\074
\056\044\137\313\130\017\353\050\354\257\021\226\363\334\173\157
\300\247\210\362\123\167\263\140\136\256\256\050\332\065\054\157
\064\105\323\046\341\336\354\133\117\047\153\026\174\275\104\004
\030\202\263\211\171\027\020\161\075\172\242\026\116\365\001\315
\244\154\145\150\241\111\166\134\103\311\330\274\066\147\154\245
\224\265\324\314\271\275\152\065\126\041\336\330\303\353\373\313
\244\140\114\260\125\240\240\173\127\262
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END

#

```
Trust for Certificate "Network Solutions Certificate Authority"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Network Solutions Certificate Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\164\370\243\303\357\347\263\220\006\113\203\220\074\041\144\140
\040\345\337\316
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END

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CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\323\363\246\026\300\372\153\035\131\261\055\226\115\016\021\056
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END

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CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\116\145\164\167\157\162
\153\040\123\157\154\165\164\151\157\156\163\040\114\056\114\056
\103\056\061\060\060\056\006\003\125\004\003\023\047\116\145\164
\167\157\162\153\040\123\157\154\165\164\151\157\156\163\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171
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END

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CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\127\313\063\157\302\134\026\346\107\026\027\343\220\061
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\150\340
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "WellsSecure Public Root Certificate Authority"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL
CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "WellsSecure Public Root Certificate Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\040\060\036\006\003\125\004\012\014\027\127\145\154\154\163
\040\106\141\162\147\157\040\127\145\154\154\163\123\145\143\165
\162\145\061\034\060\032\006\003\125\004\013\014\023\127\145\154
\154\163\040\106\141\162\147\157\040\102\141\156\153\040\116\101
\061\066\060\064\006\003\125\004\003\014\055\127\145\154\154\163
\123\145\143\165\162\145\040\120\165\142\154\151\143\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101
\165\164\150\157\162\151\164\171
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END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\040\060\036\006\003\125\004\012\014\027\127\145\154\154\163
\040\106\141\162\147\157\040\127\145\154\154\163\123\145\143\165
\162\145\061\034\060\032\006\003\125\004\013\014\023\127\145\154
\154\163\040\106\141\162\147\157\040\102\141\156\153\040\116\101
\061\066\060\064\006\003\125\004\003\014\055\127\145\154\154\163
\123\145\143\165\162\145\040\120\165\142\154\151\143\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101
\165\164\150\157\162\151\164\171
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END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\275\060\202\003\245\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\201\205\061\013\060\011\006\003\125\004\006\023\002\125\123\061
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\040\060\036\006\003\125\004\012\014\027\127\145\154\154\163\040  
\106\141\162\147\157\040\127\145\154\154\163\123\145\143\165\162  
\145\061\034\060\032\006\003\125\004\013\014\023\127\145\154\154  
\163\040\106\141\162\147\157\040\102\141\156\153\040\116\101\061  
\066\060\064\006\003\125\004\003\014\055\127\145\154\154\163\123  
\145\143\165\162\145\040\120\165\142\154\151\143\040\122\157\157  
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165  
\164\150\157\162\151\164\171\060\036\027\015\060\067\061\062\061  
\063\061\067\060\067\065\064\132\027\015\062\062\061\062\061\064  
\060\060\060\067\065\064\132\060\201\205\061\013\060\011\006\003  
\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012  
\014\027\127\145\154\154\163\040\106\141\162\147\157\040\127\145  
\154\154\163\123\145\143\165\162\145\061\034\060\032\006\003\125  
\004\013\014\023\127\145\154\154\163\040\106\141\162\147\157\040  
\102\141\156\153\040\116\101\061\066\060\064\006\003\125\004\003  
\014\055\127\145\154\154\163\123\145\143\165\162\145\040\120\165  
\142\154\151\143\040\122\157\157\164\040\103\145\162\164\151\146  
\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171\060  
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001  
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000  
\356\157\264\275\171\342\217\010\041\236\070\004\101\045\357\253  
\133\034\123\222\254\155\236\335\302\304\056\105\224\003\065\210  
\147\164\127\343\337\214\270\247\166\217\073\367\250\304\333\051  
\143\016\221\150\066\212\227\216\212\161\150\011\007\344\350\324  
\016\117\370\326\053\114\244\026\371\357\103\230\217\263\236\122  
\337\155\221\071\217\070\275\167\213\103\143\353\267\223\374\060  
\114\034\001\223\266\023\373\367\241\037\277\045\341\164\067\054  
\036\244\136\074\150\370\113\277\015\271\036\056\066\350\251\344  
\247\370\017\313\202\165\174\065\055\042\326\302\277\013\363\264  
\374\154\225\141\036\127\327\004\201\062\203\122\171\346\203\143  
\317\267\313\143\213\021\342\275\136\353\366\215\355\225\162\050  
\264\254\022\142\351\112\063\346\203\062\256\005\165\225\275\204  
\225\333\052\134\233\216\056\014\270\201\053\101\346\070\126\237  
\111\233\154\166\372\212\135\367\001\171\201\174\301\203\100\005  
\376\161\375\014\077\314\116\140\011\016\145\107\020\057\001\300  
\005\077\217\370\263\101\357\132\102\176\131\357\322\227\014\145  
\002\003\001\000\001\243\202\001\064\060\202\001\060\060\017\006  
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\071  
\006\003\125\035\037\004\062\060\060\060\056\240\054\240\052\206  
\050\150\164\164\160\072\057\057\143\162\154\056\160\153\151\056  
\167\145\154\154\163\146\141\162\147\157\056\143\157\155\057\167  
\163\160\162\143\141\056\143\162\154\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016  
\004\026\004\024\046\225\031\020\331\350\241\227\221\377\334\031  
\331\265\004\076\322\163\012\152\060\201\262\006\003\125\035\043  
\004\201\252\060\201\247\200\024\046\225\031\020\331\350\241\227  
\221\377\334\031\331\265\004\076\322\163\012\152\241\201\213\244  
\201\210\060\201\205\061\013\060\011\006\003\125\004\006\023\002



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\125\123\061\040\060\036\006\003\125\004\012\014\027\127\145\154
\154\163\040\106\141\162\147\157\040\127\145\154\154\163\123\145
\143\165\162\145\061\034\060\032\006\003\125\004\013\014\023\127
\145\154\154\163\040\106\141\162\147\157\040\102\141\156\153\040
\116\101\061\066\060\064\006\003\125\004\003\014\055\127\145\154
\154\163\123\145\143\165\162\145\040\120\165\142\154\151\143\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\145
\040\101\165\164\150\157\162\151\164\171\202\001\001\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\271\025\261\104\221\314\043\310\053\115\167\343\370\232\173
\047\015\315\162\273\231\000\312\174\146\031\120\306\325\230\355
\253\277\003\132\345\115\345\036\310\117\161\227\206\325\343\035
\375\220\311\074\165\167\127\172\175\370\336\364\324\325\367\225
\346\164\156\035\074\256\174\235\333\002\003\005\054\161\113\045
\076\007\343\136\232\365\146\027\051\210\032\070\237\317\252\101
\003\204\227\153\223\070\172\312\060\104\033\044\104\063\320\344
\321\334\050\070\364\023\103\065\065\051\143\250\174\242\265\255
\070\244\355\255\375\306\232\037\377\227\163\376\373\263\065\247
\223\206\306\166\221\000\346\254\121\026\304\047\062\134\333\163
\332\245\223\127\216\076\155\065\046\010\131\325\347\104\327\166
\040\143\347\254\023\147\303\155\261\160\106\174\325\226\021\075
\211\157\135\250\241\353\215\012\332\303\035\063\154\243\352\147
\031\232\231\177\113\075\203\121\052\035\312\057\206\014\242\176
\020\055\053\324\026\225\013\007\252\056\024\222\111\267\051\157
\330\155\061\175\365\374\241\020\007\207\316\057\131\334\076\130
\333
END
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#

```
Trust for Certificate "WellsSecure Public Root Certificate Authority"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "WellsSecure Public Root Certificate Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\347\264\366\235\141\354\220\151\333\176\220\247\100\032\074\364
\175\117\350\356
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\025\254\245\302\222\055\171\274\350\177\313\147\355\002\317\066
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\040\060\036\006\003\125\004\012\014\027\127\145\154\154\163
\040\106\141\162\147\157\040\127\145\154\154\163\123\145\143\165
\162\145\061\034\060\032\006\003\125\004\013\014\023\127\145\154
\154\163\040\106\141\162\147\157\040\102\141\156\153\040\116\101
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\061\066\060\064\006\003\125\004\003\014\055\127\145\154\154\163
\123\145\143\165\162\145\040\120\165\142\154\151\143\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101
\165\164\150\157\162\151\164\171
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\001\001
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "COMODO ECC Certification Authority"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "COMODO ECC Certification Authority"

CKA\_CERTIFICATE\_TYPE

CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143  
\231\052

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\002\211\060\202\002\017\240\003\002\001\002\002\020\037  
\107\257\252\142\000\160\120\124\114\001\236\233\143\231\052\060  
\012\006\010\052\206\110\316\075\004\003\003\060\201\205\061\013  
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006  
\003\125\004\010\023\022\107\162\145\141\164\145\162\040\115\141  
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004  
\007\023\007\123\141\154\146\157\162\144\061\032\060\030\006\003  
\125\004\012\023\021\103\117\115\117\104\117\040\103\101\040\114  
\151\155\151\164\145\144\061\053\060\051\006\003\125\004\003\023  
\042\103\117\115\117\104\117\040\105\103\103\040\103\145\162\164  
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162  
\151\164\171\060\036\027\015\060\070\060\063\060\066\060\060\060  
\060\060\060\132\027\015\063\070\060\061\061\070\062\063\065\071  
\065\071\132\060\201\205\061\013\060\011\006\003\125\004\006\023  
\002\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162  
\145\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162  
\061\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157  
\162\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115  
\117\104\117\040\103\101\040\114\151\155\151\164\145\144\061\053  
\060\051\006\003\125\004\003\023\042\103\117\115\117\104\117\040  
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171\060\166\060\020\006  
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003  
\142\000\004\003\107\173\057\165\311\202\025\205\373\165\344\221  
\026\324\253\142\231\365\076\122\013\006\316\101\000\177\227\341  
\012\044\074\035\001\004\356\075\322\215\011\227\014\340\165\344  
\372\373\167\212\052\365\003\140\113\066\213\026\043\026\255\011  
\161\364\112\364\050\120\264\376\210\034\156\077\154\057\057\011  
\131\133\245\133\013\063\231\342\303\075\211\371\152\054\357\262  
\323\006\351\243\102\060\100\060\035\006\003\125\035\016\004\026  
\004\024\165\161\247\031\110\031\274\235\235\352\101\107\337\224  
\304\110\167\231\323\171\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075  
\004\003\003\003\150\000\060\145\002\061\000\357\003\133\172\254  
\267\170\012\162\267\210\337\377\265\106\024\011\012\372\240\346  
\175\010\306\032\207\275\030\250\163\275\046\312\140\014\235\316  
\231\237\317\134\017\060\341\276\024\061\352\002\060\024\364\223  
\074\111\247\063\172\220\106\107\263\143\175\023\233\116\267\157  
\030\067\200\123\376\335\040\340\065\232\066\321\307\001\271\346  
\334\335\363\377\035\054\072\026\127\331\222\071\326

END

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#
Trust for Certificate "COMODO ECC Certification Authority"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\237\164\116\237\053\115\272\354\017\061\054\120\266\126\073\216
\055\223\303\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\174\142\377\164\235\061\123\136\150\112\325\170\252\036\277\043
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143
\231\052
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "MD5 Collisions Forged Rogue CA 25c3"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "MD5 Collisions Forged Rogue CA 25c3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\074\061\072\060\070\006\003\125\004\003\023\061\115\104\065
\040\103\157\154\154\151\163\151\157\156\163\040\111\156\143\056
\040\050\150\164\164\160\072\057\057\167\167\167\056\160\150\162
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\145\145\144\157\155\056\157\162\147\057\155\144\065\051  
END  
CKA\_ID  
UTF8 "0"  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\034\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141  
\170\040\123\145\143\165\162\145\040\111\156\143\056\061\055\060  
\053\006\003\125\004\003\023\044\105\161\165\151\146\141\170\040  
\123\145\143\165\162\145\040\107\154\157\142\141\154\040\145\102  
\165\163\151\156\145\163\163\040\103\101\055\061  
END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\001\102  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\004\062\060\202\003\233\240\003\002\001\002\002\001\102  
\060\015\006\011\052\206\110\206\367\015\001\001\004\005\000\060  
\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061\034  
\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141\170  
\040\123\145\143\165\162\145\040\111\156\143\056\061\055\060\053  
\006\003\125\004\003\023\044\105\161\165\151\146\141\170\040\123  
\145\143\165\162\145\040\107\154\157\142\141\154\040\145\102\165  
\163\151\156\145\163\163\040\103\101\055\061\060\036\027\015\060  
\064\060\067\063\061\060\060\060\060\060\061\132\027\015\060\064  
\060\071\060\062\060\060\060\060\060\061\132\060\074\061\072\060  
\070\006\003\125\004\003\023\061\115\104\065\040\103\157\154\154  
\151\163\151\157\156\163\040\111\156\143\056\040\050\150\164\164  
\160\072\057\057\167\167\167\056\160\150\162\145\145\144\157\155  
\056\157\162\147\057\155\144\065\051\060\201\237\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\201\215\000\060  
\201\211\002\201\201\000\272\246\131\311\054\050\326\052\260\370  
\355\237\106\244\244\067\356\016\031\150\131\321\263\003\231\121  
\326\026\232\136\067\153\025\340\016\113\365\204\144\370\243\333  
\101\157\065\325\233\025\037\333\304\070\122\160\201\227\136\217  
\240\265\367\176\071\360\062\254\036\255\104\322\263\372\110\303  
\316\221\233\354\364\234\174\341\132\365\310\067\153\232\203\336  
\347\312\040\227\061\102\163\025\221\150\364\210\257\371\050\050  
\305\351\017\163\260\027\113\023\114\231\165\320\104\346\176\010  
\154\032\362\117\033\101\002\003\001\000\001\243\202\002\044\060  
\202\002\040\060\013\006\003\125\035\017\004\004\003\002\001\306  
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001  
\377\060\035\006\003\125\035\016\004\026\004\024\247\004\140\037  
\253\162\103\010\305\177\010\220\125\126\034\326\316\346\070\353  
\060\037\006\003\125\035\043\004\030\060\026\200\024\276\250\240  
\164\162\120\153\104\267\311\043\330\373\250\377\263\127\153\150  
\154\060\202\001\276\006\011\140\206\110\001\206\370\102\001\015  
\004\202\001\257\026\202\001\253\063\000\000\000\047\136\071\340

\211\141\017\116\243\305\105\013\066\273\001\321\123\252\303\010  
\217\157\370\117\076\207\207\104\021\334\140\340\337\222\125\371  
\270\163\033\124\223\305\237\320\106\304\140\266\065\142\315\271  
\257\034\250\151\032\311\133\074\226\067\300\355\147\357\273\376  
\300\213\234\120\057\051\275\203\042\236\216\010\372\254\023\160  
\242\130\177\142\142\212\021\367\211\366\337\266\147\131\163\026  
\373\143\026\212\264\221\070\316\056\365\266\276\114\244\224\111  
\344\145\021\012\102\025\311\301\060\342\151\325\105\175\245\046  
\273\271\141\354\142\144\360\071\341\347\274\150\330\120\121\236  
\035\140\323\321\243\247\012\370\003\040\241\160\001\027\221\066  
\117\002\160\061\206\203\335\367\017\330\007\035\021\263\023\004  
\245\334\360\256\120\261\050\016\143\151\052\014\202\157\217\107  
\063\337\154\242\006\222\361\117\105\276\331\060\066\243\053\214  
\326\167\256\065\143\177\116\114\232\223\110\066\331\237\002\003  
\001\000\001\243\201\275\060\201\272\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\004\360\060\035\006\003\125\035\016  
\004\026\004\024\315\246\203\372\245\140\067\367\226\067\027\051  
\336\101\170\361\207\211\125\347\060\073\006\003\125\035\037\004  
\064\060\062\060\060\240\056\240\054\206\052\150\164\164\160\072  
\057\057\143\162\154\056\147\145\157\164\162\165\163\164\056\143  
\157\155\057\143\162\154\163\057\147\154\157\142\141\154\143\141  
\061\056\143\162\154\060\037\006\003\125\035\043\004\030\060\026  
\200\024\276\250\240\164\162\120\153\104\267\311\043\330\373\250  
\377\263\127\153\150\154\060\035\006\003\125\035\045\004\026\060  
\024\006\010\053\006\001\005\005\007\003\001\006\010\053\006\001  
\005\005\007\003\002\060\014\006\003\125\035\023\001\001\377\004  
\002\060\000\060\015\006\011\052\206\110\206\367\015\001\001\004  
\005\000\003\201\201\000\247\041\002\215\321\016\242\200\167\045  
\375\103\140\025\217\354\357\220\107\324\204\102\025\046\021\034  
\315\302\074\020\051\251\266\337\253\127\165\221\332\345\053\263  
\220\105\034\060\143\126\077\212\331\120\372\355\130\154\300\145  
\254\146\127\336\034\306\166\073\365\000\016\216\105\316\177\114  
\220\354\053\306\315\263\264\217\142\320\376\267\305\046\162\104  
\355\366\230\133\256\313\321\225\365\332\010\276\150\106\261\165  
\310\354\035\217\036\172\224\361\252\123\170\242\105\256\124\352  
\321\236\164\310\166\147

END

#

Trust for Certificate "MD5 Collisions Forged Rogue CA 25c3"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN  
CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "MD5 Collisions Forged Rogue CA 25c3"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\144\043\023\176\134\123\326\112\246\144\205\355\066\124\365\253

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\005\132\213\212
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CKA_CERT_MD5_HASH MULTILINE_OCTAL
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END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\034\060\032\006\003\125\004\012\023\023\105\161\165\151\146\141
\170\040\123\145\143\165\162\145\040\111\156\143\056\061\055\060
\053\006\003\125\004\003\023\044\105\161\165\151\146\141\170\040
\123\145\143\165\162\145\040\107\154\157\142\141\154\040\145\102
\165\163\151\156\145\163\163\040\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\102
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_UNTRUSTED
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_UNTRUSTED
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_UNTRUSTED
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE

#
# Certificate "IGC/A"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IGC/A"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\106\122
\061\017\060\015\006\003\125\004\010\023\006\106\162\141\156\143
\145\061\016\060\014\006\003\125\004\007\023\005\120\141\162\151
\163\061\020\060\016\006\003\125\004\012\023\007\120\115\057\123
\107\104\116\061\016\060\014\006\003\125\004\013\023\005\104\103
\123\123\111\061\016\060\014\006\003\125\004\003\023\005\111\107
\103\057\101\061\043\060\041\006\011\052\206\110\206\367\015\001
\011\001\026\024\151\147\143\141\100\163\147\144\156\056\160\155
\056\147\157\165\166\056\146\162
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\106\122
\061\017\060\015\006\003\125\004\010\023\006\106\162\141\156\143
\145\061\016\060\014\006\003\125\004\007\023\005\120\141\162\151
\163\061\020\060\016\006\003\125\004\012\023\007\120\115\057\123

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\107\104\116\061\016\060\014\006\003\125\004\013\023\005\104\103  
\123\123\111\061\016\060\014\006\003\125\004\003\023\005\111\107  
\103\057\101\061\043\060\041\006\011\052\206\110\206\367\015\001  
\011\001\026\024\151\147\143\141\100\163\147\144\156\056\160\155  
\056\147\157\165\166\056\146\162

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\005\071\021\105\020\224

END

CKA\_VALUE MULTILINE\_OCTAL

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\005\005\000\060\201\205\061\013\060\011\006\003\125\004\006\023  
\002\106\122\061\017\060\015\006\003\125\004\010\023\006\106\162  
\141\156\143\145\061\016\060\014\006\003\125\004\007\023\005\120  
\141\162\151\163\061\020\060\016\006\003\125\004\012\023\007\120  
\115\057\123\107\104\116\061\016\060\014\006\003\125\004\013\023  
\005\104\103\123\123\111\061\016\060\014\006\003\125\004\003\023  
\005\111\107\103\057\101\061\043\060\041\006\011\052\206\110\206  
\367\015\001\011\001\026\024\151\147\143\141\100\163\147\144\156  
\056\160\155\056\147\157\165\166\056\146\162\060\036\027\015\060  
\062\061\062\061\063\061\064\062\071\062\063\132\027\015\062\060  
\061\060\061\067\061\064\062\071\062\062\132\060\201\205\061\013  
\060\011\006\003\125\004\006\023\002\106\122\061\017\060\015\006  
\003\125\004\010\023\006\106\162\141\156\143\145\061\016\060\014  
\006\003\125\004\007\023\005\120\141\162\151\163\061\020\060\016  
\006\003\125\004\012\023\007\120\115\057\123\107\104\116\061\016  
\060\014\006\003\125\004\013\023\005\104\103\123\123\111\061\016  
\060\014\006\003\125\004\003\023\005\111\107\103\057\101\061\043  
\060\041\006\011\052\206\110\206\367\015\001\011\001\026\024\151  
\147\143\141\100\163\147\144\156\056\160\155\056\147\157\165\166  
\056\146\162\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\262\037\321\320\142\305\063\073\300\004\206\210  
\263\334\370\210\367\375\337\103\337\172\215\232\111\134\366\116  
\252\314\034\271\241\353\047\211\362\106\351\073\112\161\325\035  
\216\055\317\346\255\253\143\120\307\124\013\156\022\311\220\066  
\306\330\057\332\221\252\150\305\162\376\027\012\262\027\176\171  
\265\062\210\160\312\160\300\226\112\216\344\125\315\035\047\224  
\277\316\162\052\354\134\371\163\040\376\275\367\056\211\147\270  
\273\107\163\022\367\321\065\151\072\362\012\271\256\377\106\102  
\106\242\277\241\205\032\371\277\344\377\111\205\367\243\160\206  
\062\034\135\237\140\367\251\255\245\377\317\321\064\371\175\133  
\027\306\334\326\016\050\153\302\335\361\365\063\150\235\116\374  
\207\174\066\022\326\243\200\350\103\015\125\141\224\352\144\067  
\107\352\167\312\320\262\130\005\303\135\176\261\250\106\220\061  
\126\316\160\052\226\262\060\270\167\346\171\300\275\051\073\375



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\224\167\114\275\040\315\101\045\340\056\307\033\273\356\244\004
\101\322\135\255\022\152\212\233\107\373\311\335\106\100\341\235
\074\063\320\265\002\003\001\000\001\243\167\060\165\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\013
\006\003\125\035\017\004\004\003\002\001\106\060\025\006\003\125
\035\040\004\016\060\014\060\012\006\010\052\201\172\001\171\001
\001\001\060\035\006\003\125\035\016\004\026\004\024\243\005\057
\030\140\120\302\211\012\335\053\041\117\377\216\116\250\060\061
\066\060\037\006\003\125\035\043\004\030\060\026\200\024\243\005
\057\030\140\120\302\211\012\335\053\041\117\377\216\116\250\060
\061\066\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\003\202\001\001\000\005\334\046\330\372\167\025\104\150\374
\057\146\072\164\340\135\344\051\377\006\007\023\204\112\253\317
\155\240\037\121\224\370\111\313\164\066\024\274\025\335\333\211
\057\335\217\240\135\174\365\022\353\237\236\070\244\107\314\263
\226\331\276\234\045\253\003\176\063\017\225\201\015\375\026\340
\210\276\067\360\154\135\320\061\233\062\053\135\027\145\223\230
\140\274\156\217\261\250\074\036\331\034\363\251\046\102\371\144
\035\302\347\222\366\364\036\132\252\031\122\135\257\350\242\367
\140\240\366\215\360\211\365\156\340\012\005\001\225\311\213\040
\012\272\132\374\232\054\074\275\303\267\311\135\170\045\005\077
\126\024\233\014\332\373\072\110\376\227\151\136\312\020\206\367
\116\226\004\010\115\354\260\276\135\334\073\216\117\301\375\232
\066\064\232\114\124\176\027\003\110\225\010\021\034\007\157\205
\010\176\135\115\304\235\333\373\256\316\262\321\263\270\203\154
\035\262\263\171\361\330\160\231\176\360\023\002\316\136\335\121
\323\337\066\201\241\033\170\057\161\263\361\131\114\106\030\050
\253\205\322\140\126\132
```

END

#

Trust for Certificate "IGC/A"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "IGC/A"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\140\326\211\164\265\302\145\236\212\017\301\210\174\210\322\106
\151\033\030\054
```

END

CKA\_CERT\_MD5\_HASH

MULTILINE\_OCTAL

```
\014\177\335\152\364\052\271\310\233\275\040\176\251\333\134\067
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\106\122
\061\017\060\015\006\003\125\004\010\023\006\106\162\141\156\143
```

```
\145\061\016\060\014\006\003\125\004\007\023\005\120\141\162\151
\163\061\020\060\016\006\003\125\004\012\023\007\120\115\057\123
\107\104\116\061\016\060\014\006\003\125\004\013\023\005\104\103
\123\123\111\061\016\060\014\006\003\125\004\003\023\005\111\107
\103\057\101\061\043\060\041\006\011\052\206\110\206\367\015\001
\011\001\026\024\151\147\143\141\100\163\147\144\156\056\160\155
\056\147\157\165\166\056\146\162
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\005\071\021\105\020\224
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED

CK\_BBOOL CK\_FALSE

#

# Certificate "Security Communication EV RootCA1"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Security Communication EV RootCA1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

```
\060\140\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\052\060\050\006\003\125\004\013\023
\041\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\126\040\122\157\157\164\103
\101\061
```

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\140\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\052\060\050\006\003\125\004\013\023
\041\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\126\040\122\157\157\164\103
\101\061
```

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

```
\002\001\000
```

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\175\060\202\002\145\240\003\002\001\002\002\001\000  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\140\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045  
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124  
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056  
\054\114\124\104\056\061\052\060\050\006\003\125\004\013\023\041  
\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151  
\143\141\164\151\157\156\040\105\126\040\122\157\157\164\103\101  
\061\060\036\027\015\060\067\060\066\060\066\060\062\061\062\063  
\062\132\027\015\063\067\060\066\060\066\060\062\061\062\063\062  
\132\060\140\061\013\060\011\006\003\125\004\006\023\002\112\120  
\061\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115  
\040\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103  
\117\056\054\114\124\104\056\061\052\060\050\006\003\125\004\013  
\023\041\123\145\143\165\162\151\164\171\040\103\157\155\155\165  
\156\151\143\141\164\151\157\156\040\105\126\040\122\157\157\164  
\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\274\177\354\127\233\044\340\376\234\272\102\171  
\251\210\212\372\200\340\365\007\051\103\352\216\012\064\066\215  
\034\372\247\265\071\170\377\227\165\367\057\344\252\153\004\204  
\104\312\246\342\150\216\375\125\120\142\017\244\161\016\316\007  
\070\055\102\205\120\255\074\226\157\213\325\242\016\317\336\111  
\211\075\326\144\056\070\345\036\154\265\127\212\236\357\110\016  
\315\172\151\026\207\104\265\220\344\006\235\256\241\004\227\130  
\171\357\040\112\202\153\214\042\277\354\037\017\351\204\161\355  
\361\016\344\270\030\023\314\126\066\135\321\232\036\121\153\071  
\156\140\166\210\064\013\363\263\321\260\235\312\141\342\144\035  
\301\106\007\270\143\335\036\063\145\263\216\011\125\122\075\265  
\275\377\007\353\255\141\125\030\054\251\151\230\112\252\100\305  
\063\024\145\164\000\371\221\336\257\003\110\305\100\124\334\017  
\204\220\150\040\305\222\226\334\056\345\002\105\252\300\137\124  
\370\155\352\111\317\135\154\113\257\357\232\302\126\134\306\065  
\126\102\152\060\137\302\253\366\342\075\077\263\311\021\217\061  
\114\327\237\111\002\003\001\000\001\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\065\112\365\115\257\077\327\202  
\070\254\253\161\145\027\165\214\235\125\223\346\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\250\207\351\354\370\100\147\135\303\301\146\307\100\113\227  
\374\207\023\220\132\304\357\240\312\137\213\267\247\267\361\326  
\265\144\267\212\263\270\033\314\332\373\254\146\210\101\316\350  
\374\344\333\036\210\246\355\047\120\033\002\060\044\106\171\376  
\004\207\160\227\100\163\321\300\301\127\031\232\151\245\047\231  
\253\235\142\204\366\121\301\054\311\043\025\330\050\267\253\045

```
\023\265\106\341\206\002\377\046\214\304\210\222\035\126\376\031
\147\362\125\344\200\243\153\234\253\167\341\121\161\015\040\333
\020\232\333\275\166\171\007\167\231\050\255\232\136\332\261\117
\104\054\065\216\245\226\307\375\203\360\130\306\171\326\230\174
\250\215\376\206\076\007\026\222\341\173\347\035\354\063\166\176
\102\056\112\205\371\221\211\150\204\003\201\245\233\232\276\343
\067\305\124\253\126\073\030\055\101\244\014\370\102\333\231\240
\340\162\157\273\135\341\026\117\123\012\144\371\116\364\277\116
\124\275\170\154\210\352\277\234\023\044\302\160\151\242\177\017
\310\074\255\010\311\260\230\100\243\052\347\210\203\355\167\217
\164
END
```

```
#
```

```
Trust for Certificate "Security Communication EV RootCA1"
```

```
CKA_CLASS
```

```
CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Security Communication EV RootCA1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\376\270\304\062\334\371\166\232\316\256\075\330\220\217\375\050
\206\145\144\175
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\042\055\246\001\352\174\012\367\360\154\126\103\077\167\166\323
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\140\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\052\060\050\006\003\125\004\013\023
\041\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\126\040\122\157\157\164\103
\101\061
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\000
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
```

```
CKA_TRUST_CODE_SIGNING
```

```
CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "OISTE WISeKey Global Root GA CA"
```

```
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\361\060\202\002\331\240\003\002\001\002\002\020\101
\075\162\307\364\153\037\201\103\175\361\322\050\124\337\232\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\212\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020
\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171
\061\033\060\031\006\003\125\004\013\023\022\103\157\160\171\162
\151\147\150\164\040\050\143\051\040\062\060\060\065\061\042\060
\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157
\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145
\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124
\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154
\040\122\157\157\164\040\107\101\040\103\101\060\036\027\015\060
```

\065\061\062\061\061\061\066\060\063\064\064\132\027\015\063\067  
\061\062\061\061\061\066\060\071\065\061\132\060\201\212\061\013  
\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006  
\003\125\004\012\023\007\127\111\123\145\113\145\171\061\033\060  
\031\006\003\125\004\013\023\022\103\157\160\171\162\151\147\150  
\164\040\050\143\051\040\062\060\060\065\061\042\060\040\006\003  
\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156\144  
\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061\050  
\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040\127  
\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122\157  
\157\164\040\107\101\040\103\101\060\202\001\042\060\015\006\011  
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\313\117\263\000\233\075\066  
\335\371\321\111\152\153\020\111\037\354\330\053\262\306\370\062  
\201\051\103\225\114\232\031\043\041\025\105\336\343\310\034\121  
\125\133\256\223\350\067\377\053\153\351\324\352\276\052\335\250  
\121\053\327\146\303\141\134\140\002\310\365\316\162\173\073\270  
\362\116\145\010\232\315\244\152\031\301\001\273\163\246\327\366  
\303\335\315\274\244\213\265\231\141\270\001\242\243\324\115\324  
\005\075\221\255\370\264\010\161\144\257\160\361\034\153\176\366  
\303\167\235\044\163\173\344\014\214\341\331\066\341\231\213\005  
\231\013\355\105\061\011\312\302\000\333\367\162\240\226\252\225  
\207\320\216\307\266\141\163\015\166\146\214\334\033\264\143\242  
\237\177\223\023\060\361\241\047\333\331\377\054\125\210\221\240  
\340\117\007\260\050\126\214\030\033\227\104\216\211\335\340\027  
\156\347\052\357\217\071\012\061\204\202\330\100\024\111\056\172  
\101\344\247\376\343\144\314\301\131\161\113\054\041\247\133\175  
\340\035\321\056\201\233\303\330\150\367\275\226\033\254\160\261  
\026\024\013\333\140\271\046\001\005\002\003\001\000\001\243\121  
\060\117\060\013\006\003\125\035\017\004\004\003\002\001\206\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\263\003\176\256\066  
\274\260\171\321\334\224\046\266\021\276\041\262\151\206\224\060  
\020\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001  
\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\003\202\001\001\000\113\241\377\013\207\156\263\371\301\103\261  
\110\363\050\300\035\056\311\011\101\372\224\000\034\244\244\253  
\111\117\217\075\036\357\115\157\275\274\244\366\362\046\060\311  
\020\312\035\210\373\164\031\037\205\105\275\260\154\121\371\066  
\176\333\365\114\062\072\101\117\133\107\317\350\013\055\266\304  
\031\235\164\305\107\306\073\152\017\254\024\333\074\364\163\234  
\251\005\337\000\334\164\170\372\370\065\140\131\002\023\030\174  
\274\373\115\260\040\155\103\273\140\060\172\147\063\134\305\231  
\321\370\055\071\122\163\373\214\252\227\045\134\162\331\010\036  
\253\116\074\343\201\061\237\003\246\373\300\376\051\210\125\332  
\204\325\120\003\266\342\204\243\246\066\252\021\072\001\341\030  
\113\326\104\150\263\075\371\123\164\204\263\106\221\106\226\000  
\267\200\054\266\341\343\020\342\333\242\347\050\217\001\226\142

```
\026\076\000\343\034\245\066\201\030\242\114\122\166\300\021\243
\156\346\035\272\343\132\276\066\123\305\076\165\217\206\151\051
\130\123\265\234\273\157\237\134\305\030\354\335\057\341\230\311
\374\276\337\012\015
END
```

```
#
```

```
Trust for Certificate "OISTE WISeKey Global Root GA CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\131\042\241\341\132\352\026\065\041\370\230\071\152\106\106\260
\104\033\017\251
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\274\154\121\063\247\351\323\146\143\124\025\162\033\041\222\223
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
END
```

```
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "S-TRUST Authentication and Encryption Root CA 2005 PN"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "S-TRUST Authentication and Encryption Root CA 2005 PN"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\040\060\036\006\003\125\004\010\023\027\102\141\144\145\156
\055\127\165\145\162\164\164\145\155\142\145\162\147\040\050\102
\127\051\061\022\060\020\006\003\125\004\007\023\011\123\164\165
\164\164\147\141\162\164\061\051\060\047\006\003\125\004\012\023
\040\104\145\165\164\163\143\150\145\162\040\123\160\141\162\153
\141\163\163\145\156\040\126\145\162\154\141\147\040\107\155\142
\110\061\076\060\074\006\003\125\004\003\023\065\123\055\124\122
\125\123\124\040\101\165\164\150\145\156\164\151\143\141\164\151
\157\156\040\141\156\144\040\105\156\143\162\171\160\164\151\157
\156\040\122\157\157\164\040\103\101\040\062\060\060\065\072\120
\116
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\040\060\036\006\003\125\004\010\023\027\102\141\144\145\156
\055\127\165\145\162\164\164\145\155\142\145\162\147\040\050\102
\127\051\061\022\060\020\006\003\125\004\007\023\011\123\164\165
\164\164\147\141\162\164\061\051\060\047\006\003\125\004\012\023
\040\104\145\165\164\163\143\150\145\162\040\123\160\141\162\153
\141\163\163\145\156\040\126\145\162\154\141\147\040\107\155\142
\110\061\076\060\074\006\003\125\004\003\023\065\123\055\124\122
\125\123\124\040\101\165\164\150\145\156\164\151\143\141\164\151
\157\156\040\141\156\144\040\105\156\143\162\171\160\164\151\157
\156\040\122\157\157\164\040\103\101\040\062\060\060\065\072\120
\116
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\067\031\030\346\123\124\174\032\265\270\313\131\132\333
\065\267
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\173\060\202\003\143\240\003\002\001\002\002\020\067
\031\030\346\123\124\174\032\265\270\313\131\132\333\065\267\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\256\061\013\060\011\006\003\125\004\006\023\002\104\105\061\040
\060\036\006\003\125\004\010\023\027\102\141\144\145\156\055\127
\165\145\162\164\164\145\155\142\145\162\147\040\050\102\127\051
\061\022\060\020\006\003\125\004\007\023\011\123\164\165\164\164
\147\141\162\164\061\051\060\047\006\003\125\004\012\023\040\104
\145\165\164\163\143\150\145\162\040\123\160\141\162\153\141\163
```



\163\145\156\040\126\145\162\154\141\147\040\107\155\142\110\061  
\076\060\074\006\003\125\004\003\023\065\123\055\124\122\125\123  
\124\040\101\165\164\150\145\156\164\151\143\141\164\151\157\156  
\040\141\156\144\040\105\156\143\162\171\160\164\151\157\156\040  
\122\157\157\164\040\103\101\040\062\060\060\065\072\120\116\060  
\036\027\015\060\065\060\066\062\062\060\060\060\060\060\132  
\027\015\063\060\060\066\062\061\062\063\065\071\065\071\132\060  
\201\256\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
\040\060\036\006\003\125\004\010\023\027\102\141\144\145\156\055  
\127\165\145\162\164\164\145\155\142\145\162\147\040\050\102\127  
\051\061\022\060\020\006\003\125\004\007\023\011\123\164\165\164  
\164\147\141\162\164\061\051\060\047\006\003\125\004\012\023\040  
\104\145\165\164\163\143\150\145\162\040\123\160\141\162\153\141  
\163\163\145\156\040\126\145\162\154\141\147\040\107\155\142\110  
\061\076\060\074\006\003\125\004\003\023\065\123\055\124\122\125  
\123\124\040\101\165\164\150\145\156\164\151\143\141\164\151\157  
\156\040\141\156\144\040\105\156\143\162\171\160\164\151\157\156  
\040\122\157\157\164\040\103\101\040\062\060\060\065\072\120\116  
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\331\265\112\301\323\063\352\323\106\263\321\342\114\322\365  
\266\203\320\157\325\030\351\223\257\047\216\023\315\265\045\066  
\120\064\022\144\051\241\125\341\072\140\223\236\050\311\343\363  
\233\341\004\260\043\277\225\212\216\133\033\101\177\132\303\350  
\115\114\325\044\026\076\207\110\324\047\256\346\367\123\035\273  
\014\000\357\076\141\161\255\277\072\172\130\037\224\075\134\201  
\325\325\157\337\270\233\322\365\345\313\203\162\222\302\123\262  
\202\002\353\255\255\137\026\055\222\123\166\361\211\266\054\365  
\301\057\340\247\112\157\240\060\152\062\353\232\164\003\150\170  
\023\235\312\057\233\013\035\276\317\165\015\046\227\233\307\365  
\136\012\237\170\337\263\274\354\232\272\357\125\217\033\232\246  
\007\143\051\027\131\142\011\052\171\007\167\245\340\321\027\151  
\351\133\335\366\220\253\342\230\012\000\321\045\155\236\327\205  
\207\057\222\361\321\166\203\117\013\072\131\067\050\057\063\247  
\027\120\326\040\013\012\364\046\371\237\070\347\055\244\270\233  
\211\215\255\255\311\152\175\211\027\273\366\177\200\203\172\346  
\355\002\003\001\000\001\243\201\222\060\201\217\060\022\006\003  
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\000  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006  
\060\051\006\003\125\035\021\004\042\060\040\244\036\060\034\061  
\032\060\030\006\003\125\004\003\023\021\123\124\122\157\156\154  
\151\156\145\061\055\062\060\064\070\055\065\060\035\006\003\125  
\035\016\004\026\004\024\017\312\036\134\171\340\242\363\051\266  
\322\205\263\013\112\265\145\354\153\122\060\037\006\003\125\035  
\043\004\030\060\026\200\024\017\312\036\134\171\340\242\363\051  
\266\322\205\263\013\112\265\145\354\153\122\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\257  
\001\360\355\031\074\050\350\115\134\273\245\143\034\210\063\003

```
\247\000\207\244\037\040\253\326\034\343\006\037\227\176\124\275
\267\321\262\311\325\332\200\354\027\327\212\365\173\302\000\366
\351\021\157\204\240\132\045\061\342\211\371\244\000\077\061\150
\056\325\075\350\156\346\325\035\074\077\262\275\237\167\353\235
\323\214\272\300\327\266\115\354\123\234\017\004\156\352\065\147
\127\343\012\145\173\220\072\341\117\076\303\000\222\172\273\005
\211\163\214\313\246\115\300\373\366\002\326\260\007\243\003\302
\047\100\237\014\344\205\202\055\257\232\102\035\320\307\215\370
\100\356\235\006\127\034\331\242\330\200\024\376\341\143\055\062
\207\325\224\122\226\072\106\306\161\226\075\367\230\016\262\221
\252\217\332\364\116\044\000\071\125\350\255\027\271\323\064\053
\112\251\100\314\027\052\125\145\101\164\102\176\365\300\257\310
\223\255\362\030\133\075\211\014\333\107\071\044\370\340\114\362
\037\260\075\012\312\005\116\211\041\032\343\052\231\254\374\177
\241\361\017\033\037\075\236\004\203\335\226\331\035\072\224
END
```

#

Trust for Certificate "S-TRUST

Authentication and Encryption Root CA 2005 PN"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "S-TRUST Authentication and Encryption Root CA 2005 PN"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\276\265\251\225\164\153\236\337\163\213\126\346\337\103\172\167
\276\020\153\201
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\004\113\375\311\154\332\052\062\205\174\131\204\141\106\212\144
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\040\060\036\006\003\125\004\010\023\027\102\141\144\145\156
\055\127\165\145\162\164\164\145\155\142\145\162\147\040\050\102
\127\051\061\022\060\020\006\003\125\004\007\023\011\123\164\165
\164\164\147\141\162\164\061\051\060\047\006\003\125\004\012\023
\040\104\145\165\164\163\143\150\145\162\040\123\160\141\162\153
\141\163\163\145\156\040\126\145\162\154\141\147\040\107\155\142
\110\061\076\060\074\006\003\125\004\003\023\065\123\055\124\122
\125\123\124\040\101\165\164\150\145\156\164\151\143\141\164\151
\157\156\040\141\156\144\040\105\156\143\162\171\160\164\151\157
\156\040\122\157\157\164\040\103\101\040\062\060\060\065\072\120
\116
```

END

CKA\_SERIAL\_NUMBER

```
MULTILINE_OCTAL
\002\020\067\031\030\346\123\124\174\032\265\270\313\131\132\333
\065\267
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "Microsec e-Szigno Root CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\162\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\023\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\024\060\022\006\003
\125\004\013\023\013\145\055\123\172\151\147\156\157\040\103\101
\061\042\060\040\006\003\125\004\003\023\031\115\151\143\162\157
\163\145\143\040\145\055\123\172\151\147\156\157\040\122\157\157
\164\040\103\101
END
```

```
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\162\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\023\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\024\060\022\006\003
\125\004\013\023\013\145\055\123\172\151\147\156\157\040\103\101
\061\042\060\040\006\003\125\004\003\023\031\115\151\143\162\157
\163\145\143\040\145\055\123\172\151\147\156\157\040\122\157\157
\164\040\103\101
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\314\270\347\277\116\051\032\375\242\334\146\245\034
\054\017\021
END
```

```
CKA_VALUE MULTILINE_OCTAL
\060\202\007\250\060\202\006\220\240\003\002\001\002\002\021\000
\314\270\347\277\116\051\032\375\242\334\146\245\034\054\017\021
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
```

\162\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021  
\060\017\006\003\125\004\007\023\010\102\165\144\141\160\145\163  
\164\061\026\060\024\006\003\125\004\012\023\015\115\151\143\162  
\157\163\145\143\040\114\164\144\056\061\024\060\022\006\003\125  
\004\013\023\013\145\055\123\172\151\147\156\157\040\103\101\061  
\042\060\040\006\003\125\004\003\023\031\115\151\143\162\157\163  
\145\143\040\145\055\123\172\151\147\156\157\040\122\157\157\164  
\040\103\101\060\036\027\015\060\065\060\064\060\066\061\062\062  
\070\064\064\132\027\015\061\067\060\064\060\066\061\062\062\070  
\064\064\132\060\162\061\013\060\011\006\003\125\004\006\023\002  
\110\125\061\021\060\017\006\003\125\004\007\023\010\102\165\144  
\141\160\145\163\164\061\026\060\024\006\003\125\004\012\023\015  
\115\151\143\162\157\163\145\143\040\114\164\144\056\061\024\060  
\022\006\003\125\004\013\023\013\145\055\123\172\151\147\156\157  
\040\103\101\061\042\060\040\006\003\125\004\003\023\031\115\151  
\143\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040  
\122\157\157\164\040\103\101\060\202\001\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060  
\202\001\012\002\202\001\001\000\355\310\000\325\201\173\315\070  
\000\107\314\333\204\301\041\151\054\164\220\014\041\331\123\207  
\355\076\103\104\123\257\253\370\200\233\074\170\215\324\215\256  
\270\357\323\021\334\201\346\317\073\226\214\326\157\025\306\167  
\176\241\057\340\137\222\266\047\327\166\232\035\103\074\352\331  
\354\057\356\071\363\152\147\113\213\202\317\042\370\145\125\376  
\054\313\057\175\110\172\075\165\371\252\240\047\273\170\302\006  
\312\121\302\176\146\113\257\315\242\247\115\002\202\077\202\254  
\205\306\341\017\220\107\231\224\012\161\162\223\052\311\246\300  
\276\074\126\114\163\222\047\361\153\265\365\375\374\060\005\140  
\222\306\353\226\176\001\221\302\151\261\036\035\173\123\105\270  
\334\101\037\311\213\161\326\124\024\343\213\124\170\077\276\364  
\142\073\133\365\243\354\325\222\164\342\164\060\357\001\333\341  
\324\253\231\233\052\153\370\275\246\034\206\043\102\137\354\111  
\336\232\213\133\364\162\072\100\305\111\076\245\276\216\252\161  
\353\154\372\365\032\344\152\375\173\175\125\100\357\130\156\346  
\331\325\274\044\253\301\357\267\002\003\001\000\001\243\202\004  
\067\060\202\004\063\060\147\006\010\053\006\001\005\005\007\001  
\001\004\133\060\131\060\050\006\010\053\006\001\005\005\007\060  
\001\206\034\150\164\164\160\163\072\057\057\162\143\141\056\145  
\055\163\172\151\147\156\157\056\150\165\057\157\143\163\160\060  
\055\006\010\053\006\001\005\005\007\060\002\206\041\150\164\164  
\160\072\057\057\167\167\167\056\145\055\163\172\151\147\156\157  
\056\150\165\057\122\157\157\164\103\101\056\143\162\164\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\202\001\163\006\003\125\035\040\004\202\001\152\060\202\001\146  
\060\202\001\142\006\014\053\006\001\004\001\201\250\030\002\001  
\001\001\060\202\001\120\060\050\006\010\053\006\001\005\005\007  
\002\001\026\034\150\164\164\160\072\057\057\167\167\167\056\145  
\055\163\172\151\147\156\157\056\150\165\057\123\132\123\132\057

\060\202\001\042\006\010\053\006\001\005\005\007\002\002\060\202  
\001\024\036\202\001\020\000\101\000\040\000\164\000\141\000\156  
\000\372\000\163\000\355\000\164\000\166\000\341\000\156\000\171  
\000\040\000\351\000\162\000\164\000\145\000\154\000\155\000\145  
\000\172\000\351\000\163\000\351\000\150\000\145\000\172\000\040  
\000\351\000\163\000\040\000\145\000\154\000\146\000\157\000\147  
\000\141\000\144\000\341\000\163\000\341\000\150\000\157\000\172  
\000\040\000\141\000\040\000\123\000\172\000\157\000\154\000\147  
\000\341\000\154\000\164\000\141\000\164\000\363\000\040\000\123  
\000\172\000\157\000\154\000\147\000\341\000\154\000\164\000\141  
\000\164\000\341\000\163\000\151\000\040\000\123\000\172\000\141  
\000\142\000\341\000\154\000\171\000\172\000\141\000\164\000\141  
\000\040\000\163\000\172\000\145\000\162\000\151\000\156\000\164  
\000\040\000\153\000\145\000\154\000\154\000\040\000\145\000\154  
\000\152\000\341\000\162\000\156\000\151\000\072\000\040\000\150  
\000\164\000\164\000\160\000\072\000\057\000\057\000\167\000\167  
\000\167\000\056\000\145\000\055\000\163\000\172\000\151\000\147  
\000\156\000\157\000\056\000\150\000\165\000\057\000\123\000\132  
\000\123\000\132\000\057\060\201\310\006\003\125\035\037\004\201  
\300\060\201\275\060\201\272\240\201\267\240\201\264\206\041\150  
\164\164\160\072\057\057\167\167\167\056\145\055\163\172\151\147  
\156\157\056\150\165\057\122\157\157\164\103\101\056\143\162\154  
\206\201\216\154\144\141\160\072\057\057\154\144\141\160\056\145  
\055\163\172\151\147\156\157\056\150\165\057\103\116\075\115\151  
\143\162\157\163\145\143\045\062\060\145\055\123\172\151\147\156  
\157\045\062\060\122\157\157\164\045\062\060\103\101\054\117\125  
\075\145\055\123\172\151\147\156\157\045\062\060\103\101\054\117  
\075\115\151\143\162\157\163\145\143\045\062\060\114\164\144\056  
\054\114\075\102\165\144\141\160\145\163\164\054\103\075\110\125  
\077\143\145\162\164\151\146\151\143\141\164\145\122\145\166\157  
\143\141\164\151\157\156\114\151\163\164\073\142\151\156\141\162  
\171\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001  
\006\060\201\226\006\003\125\035\021\004\201\216\060\201\213\201  
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150  
\165\244\167\060\165\061\043\060\041\006\003\125\004\003\014\032  
\115\151\143\162\157\163\145\143\040\145\055\123\172\151\147\156  
\303\263\040\122\157\157\164\040\103\101\061\026\060\024\006\003  
\125\004\013\014\015\145\055\123\172\151\147\156\303\263\040\110  
\123\132\061\026\060\024\006\003\125\004\012\023\015\115\151\143  
\162\157\163\145\143\040\113\146\164\056\061\021\060\017\006\003  
\125\004\007\023\010\102\165\144\141\160\145\163\164\061\013\060  
\011\006\003\125\004\006\023\002\110\125\060\201\254\006\003\125  
\035\043\004\201\244\060\201\241\200\024\307\240\111\165\026\141  
\204\333\061\113\204\322\361\067\100\220\357\116\334\367\241\166  
\244\164\060\162\061\013\060\011\006\003\125\004\006\023\002\110  
\125\061\021\060\017\006\003\125\004\007\023\010\102\165\144\141  
\160\145\163\164\061\026\060\024\006\003\125\004\012\023\015\115  
\151\143\162\157\163\145\143\040\114\164\144\056\061\024\060\022

```
\006\003\125\004\013\023\013\145\055\123\172\151\147\156\157\040
\103\101\061\042\060\040\006\003\125\004\003\023\031\115\151\143
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122
\157\157\164\040\103\101\202\021\000\314\270\347\277\116\051\032
\375\242\334\146\245\034\054\017\021\060\035\006\003\125\035\016
\004\026\004\024\307\240\111\165\026\141\204\333\061\113\204\322
\361\067\100\220\357\116\334\367\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\323\023\234\146
\143\131\056\312\134\160\014\374\203\274\125\261\364\216\007\154
\146\047\316\301\073\040\251\034\273\106\124\160\356\132\314\240
\167\352\150\104\047\353\362\051\335\167\251\325\373\343\324\247
\004\304\225\270\013\341\104\150\140\007\103\060\061\102\141\345
\356\331\345\044\325\033\337\341\112\033\252\237\307\137\370\172
\021\352\023\223\000\312\212\130\261\356\355\016\115\264\327\250
\066\046\174\340\072\301\325\127\202\361\165\266\375\211\137\332
\363\250\070\237\065\006\010\316\042\225\276\315\325\374\276\133
\336\171\153\334\172\251\145\146\276\261\045\132\137\355\176\323
\254\106\155\114\364\062\207\264\040\004\340\154\170\260\167\321
\205\106\113\246\022\267\165\350\112\311\126\154\327\222\253\235
\365\111\070\322\117\123\343\125\220\021\333\230\226\306\111\362
\076\364\237\033\340\367\210\334\045\142\231\104\330\163\277\077
\060\363\014\067\076\324\302\050\200\163\261\001\267\235\132\226
\024\001\113\251\021\235\051\152\056\320\135\201\300\317\262\040
\103\307\003\340\067\116\135\012\334\131\040\045
```

END

#

Trust

for Certificate "Microsec e-Szigno Root CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Microsec e-Szigno Root CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\043\210\311\323\161\314\236\226\075\377\175\074\247\316\374\326
```

```
\045\354\031\015
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\360\226\266\057\305\020\325\147\216\203\045\062\350\136\056\345
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\162\061\013\060\011\006\003\125\004\006\023\002\110\125\061
```

```
\021\060\017\006\003\125\004\007\023\010\102\165\144\141\160\145
```

```
\163\164\061\026\060\024\006\003\125\004\012\023\015\115\151\143
```

```
\162\157\163\145\143\040\114\164\144\056\061\024\060\022\006\003
```

```
\125\004\013\023\013\145\055\123\172\151\147\156\157\040\103\101
```

```
\061\042\060\040\006\003\125\004\003\023\031\115\151\143\162\157
```

```

\163\145\143\040\145\055\123\172\151\147\156\157\040\122\157\157
\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\314\270\347\277\116\051\032\375\242\334\146\245\034
\054\017\021
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certigna"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\011\000\376\334\343\001\017\311\110\377
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\250\060\202\002\220\240\003\002\001\002\002\011\000
\376\334\343\001\017\311\110\377\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\064\061\013\060\011\006\003\125
\004\006\023\002\106\122\061\022\060\020\006\003\125\004\012\014
\011\104\150\151\155\171\157\164\151\163\061\021\060\017\006\003
\125\004\003\014\010\103\145\162\164\151\147\156\141\060\036\027
\015\060\067\060\066\062\071\061\065\061\063\060\065\132\027\015
\062\067\060\066\062\071\061\065\061\063\060\065\132\060\064\061

```

\013\060\011\006\003\125\004\006\023\002\106\122\061\022\060\020  
\006\003\125\004\012\014\011\104\150\151\155\171\157\164\151\163  
\061\021\060\017\006\003\125\004\003\014\010\103\145\162\164\151  
\147\156\141\060\202\001\042\060\015\006\011\052\206\110\206\367  
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002  
\202\001\001\000\310\150\361\311\326\326\263\064\165\046\202\036  
\354\264\276\352\134\341\046\355\021\107\141\341\242\174\026\170  
\100\041\344\140\236\132\310\143\341\304\261\226\222\377\030\155  
\151\043\341\053\142\367\335\342\066\057\221\007\271\110\317\016  
\354\171\266\054\347\064\113\160\010\045\243\074\207\033\031\362  
\201\007\017\070\220\031\323\021\376\206\264\362\321\136\036\036  
\226\315\200\154\316\073\061\223\266\362\240\320\251\225\022\175  
\245\232\314\153\310\204\126\212\063\251\347\042\025\123\026\360  
\314\027\354\127\137\351\242\012\230\011\336\343\137\234\157\334  
\110\343\205\013\025\132\246\272\237\254\110\343\011\262\367\364  
\062\336\136\064\276\034\170\135\102\133\316\016\042\217\115\220  
\327\175\062\030\263\013\054\152\277\216\077\024\021\211\040\016  
\167\024\265\075\224\010\207\367\045\036\325\262\140\000\354\157  
\052\050\045\156\052\076\030\143\027\045\077\076\104\040\026\366  
\046\310\045\256\005\112\264\347\143\054\363\214\026\123\176\134  
\373\021\032\010\301\106\142\237\042\270\361\302\215\151\334\372  
\072\130\006\337\002\003\001\000\001\243\201\274\060\201\271\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\035\006\003\125\035\016\004\026\004\024\032\355\376\101\071  
\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021\060  
\144\006\003\125\035\043\004\135\060\133\200\024\032\355\376\101  
\071\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021  
\241\070\244\066\060\064\061\013\060\011\006\003\125\004\006\023  
\002\106\122\061\022\060\020\006\003\125\004\012\014\011\104\150  
\151\155\171\157\164\151\163\061\021\060\017\006\003\125\004\003  
\014\010\103\145\162\164\151\147\156\141\202\011\000\376\334\343  
\001\017\311\110\377\060\016\006\003\125\035\017\001\001\377\004  
\004\003\002\001\006\060\021\006\011\140\206\110\001\206\370\102  
\001\001\004\004\003\002\000\007\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\205\003\036\222  
\161\366\102\257\341\243\141\236\353\363\300\017\362\245\324\332  
\225\346\326\276\150\066\075\176\156\037\114\212\357\321\017\041  
\155\136\245\122\143\316\022\370\357\052\332\157\353\067\376\023  
\002\307\313\073\076\042\153\332\141\056\177\324\162\075\335\060  
\341\036\114\100\031\214\017\327\234\321\203\060\173\230\131\334  
\175\306\271\014\051\114\241\063\242\353\147\072\145\204\323\226  
\342\355\166\105\160\217\265\053\336\371\043\326\111\156\074\024  
\265\306\237\065\036\120\320\301\217\152\160\104\002\142\313\256  
\035\150\101\247\252\127\350\123\252\007\322\006\366\325\024\006  
\013\221\003\165\054\154\162\265\141\225\232\015\213\271\015\347  
\365\337\124\315\336\346\330\326\011\010\227\143\345\301\056\260  
\267\104\046\300\046\300\257\125\060\236\073\325\066\052\031\004  
\364\134\036\377\317\054\267\377\320\375\207\100\021\325\021\043



```
\273\110\300\041\251\244\050\055\375\025\370\260\116\053\364\060
\133\041\374\021\221\064\276\101\357\173\235\227\165\377\227\225
\300\226\130\057\352\273\106\327\273\344\331\056
END
```

```
#
```

```
Trust
```

```
for Certificate "Certigna"
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certigna"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\261\056\023\143\105\206\244\157\032\262\140\150\067\130\055\304
```

```
\254\375\224\227
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\253\127\246\133\175\102\202\031\265\330\130\046\050\136\375\377
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
```

```
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
```

```
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
```

```
\162\164\151\147\156\141
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\011\000\376\334\343\001\017\311\110\377
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "AC
```

```
Raiz Certicamara S.A."
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AC Ra\xC3\xADz Certic\xC3\xA1mara S.A."
```

```
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
```

```
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\173\061\013\060\011\006\003\125\004\006\023\002\103\117\061
```

```
\107\060\105\006\003\125\004\012\014\076\123\157\143\151\145\144
```

```
\141\144\040\103\141\155\145\162\141\154\040\144\145\040\103\145
```

\162\164\151\146\151\143\141\143\151\303\263\156\040\104\151\147  
\151\164\141\154\040\055\040\103\145\162\164\151\143\303\241\155  
\141\162\141\040\123\056\101\056\061\043\060\041\006\003\125\004  
\003\014\032\101\103\040\122\141\303\255\172\040\103\145\162\164  
\151\143\303\241\155\141\162\141\040\123\056\101\056

END

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\173\061\013\060\011\006\003\125\004\006\023\002\103\117\061  
\107\060\105\006\003\125\004\012\014\076\123\157\143\151\145\144  
\141\144\040\103\141\155\145\162\141\154\040\144\145\040\103\145  
\162\164\151\146\151\143\141\143\151\303\263\156\040\104\151\147  
\151\164\141\154\040\055\040\103\145\162\164\151\143\303\241\155  
\141\162\141\040\123\056\101\056\061\043\060\041\006\003\125\004  
\003\014\032\101\103\040\122\141\303\255\172\040\103\145\162\164  
\151\143\303\241\155\141\162\141\040\123\056\101\056

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\017\007\176\122\223\173\340\025\343\127\360\151\214\313\354  
\014

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\006\146\060\202\004\116\240\003\002\001\002\002\017\007  
\176\122\223\173\340\025\343\127\360\151\214\313\354\014\060\015  
\006\011\052\206\110\206\367\015\001\001\005\005\000\060\173\061  
\013\060\011\006\003\125\004\006\023\002\103\117\061\107\060\105  
\006\003\125\004\012\014\076\123\157\143\151\145\144\141\144\040  
\103\141\155\145\162\141\154\040\144\145\040\103\145\162\164\151  
\146\151\143\141\143\151\303\263\156\040\104\151\147\151\164\141  
\154\040\055\040\103\145\162\164\151\143\303\241\155\141\162\141  
\040\123\056\101\056\061\043\060\041\006\003\125\004\003\014\032  
\101\103\040\122\141\303\255\172\040\103\145\162\164\151\143\303  
\241\155\141\162\141\040\123\056\101\056\060\036\027\015\060\066  
\061\061\062\067\062\060\064\066\062\071\132\027\015\063\060\060  
\064\060\062\062\061\064\062\060\062\132\060\173\061\013\060\011  
\006\003\125\004\006\023\002\103\117\061\107\060\105\006\003\125  
\004\012\014\076\123\157\143\151\145\144\141\144\040\103\141\155  
\145\162\141\154\040\144\145\040\103\145\162\164\151\146\151\143  
\141\143\151\303\263\156\040\104\151\147\151\164\141\154\040\055  
\040\103\145\162\164\151\143\303\241\155\141\162\141\040\123\056  
\101\056\061\043\060\041\006\003\125\004\003\014\032\101\103\040  
\122\141\303\255\172\040\103\145\162\164\151\143\303\241\155\141  
\162\141\040\123\056\101\056\060\202\002\042\060\015\006\011\052  
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060  
\202\002\012\002\202\002\001\000\253\153\211\243\123\314\110\043  
\010\373\303\317\121\226\010\056\270\010\172\155\074\220\027\206  
\251\351\355\056\023\064\107\262\320\160\334\311\074\320\215\312

\356\113\027\253\320\205\260\247\043\004\313\250\242\374\345\165  
\333\100\312\142\211\217\120\236\001\075\046\133\030\204\034\313  
\174\067\267\175\354\323\177\163\031\260\152\262\330\210\212\055  
\105\164\250\367\263\270\300\324\332\315\042\211\164\115\132\025  
\071\163\030\164\117\265\353\231\247\301\036\210\264\302\223\220  
\143\227\363\247\247\022\262\011\042\007\063\331\221\315\016\234  
\037\016\040\307\356\273\063\215\217\302\322\130\247\137\375\145  
\067\342\210\302\330\217\206\165\136\371\055\247\207\063\362\170  
\067\057\213\274\035\206\067\071\261\224\362\330\274\112\234\203  
\030\132\006\374\363\324\324\272\214\025\011\045\360\371\266\215  
\004\176\027\022\063\153\127\110\114\117\333\046\036\353\314\220  
\347\213\371\150\174\160\017\243\052\320\072\070\337\067\227\342  
\133\336\200\141\323\200\330\221\203\102\132\114\004\211\150\021  
\074\254\137\150\200\101\314\140\102\316\015\132\052\014\017\233  
\060\300\246\360\206\333\253\111\327\227\155\110\213\371\003\300  
\122\147\233\022\367\302\362\056\230\145\102\331\326\232\343\320  
\031\061\014\255\207\325\127\002\172\060\350\206\046\373\217\043  
\212\124\207\344\277\074\356\353\303\165\110\137\036\071\157\201  
\142\154\305\055\304\027\124\031\267\067\215\234\067\221\310\366  
\013\325\352\143\157\203\254\070\302\363\077\336\232\373\341\043  
\141\360\310\046\313\066\310\241\363\060\217\244\243\242\241\335  
\123\263\336\360\232\062\037\203\221\171\060\301\251\037\123\233  
\123\242\025\123\077\335\235\263\020\073\110\175\211\017\374\355  
\003\365\373\045\144\165\016\027\031\015\217\000\026\147\171\172  
\100\374\055\131\007\331\220\372\232\255\075\334\200\212\346\134  
\065\242\147\114\021\153\261\370\200\144\000\055\157\042\141\305  
\254\113\046\345\132\020\202\233\244\203\173\064\367\236\211\221  
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\303\225\254\104\012\235\133\163\074\046\075\057\112\276\247\311  
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\060\201\343\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\321  
\011\320\351\327\316\171\164\124\371\072\060\263\364\155\054\003  
\003\033\150\060\201\240\006\003\125\035\040\004\201\230\060\201  
\225\060\201\222\006\004\125\035\040\000\060\201\211\060\053\006  
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\057\057\167\167\167\056\143\145\162\164\151\143\141\155\141\162  
\141\056\143\157\155\057\144\160\143\057\060\132\006\010\053\006  
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\143\151\157\156\145\163\040\144\145\040\147\141\162\141\156\164  
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\151\146\151\143\141\144\157\040\163\145\040\160\165\145\144\145  
\156\040\145\156\143\157\156\164\162\141\162\040\145\156\040\154  
\141\040\104\120\103\056\060\015\006\011\052\206\110\206\367\015  
\001\001\005\005\000\003\202\002\001\000\134\224\265\270\105\221  
\115\216\141\037\003\050\017\123\174\346\244\131\251\263\212\172  
\305\260\377\010\174\054\243\161\034\041\023\147\241\225\022\100

\065\203\203\217\164\333\063\134\360\111\166\012\201\122\335\111  
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\272\173\305\233\337\273\071\043\310\377\230\316\012\115\042\001  
\110\007\176\212\300\325\040\102\224\104\357\277\167\242\211\147  
\110\033\100\003\005\241\211\354\317\142\343\075\045\166\146\277  
\046\267\273\042\276\157\377\071\127\164\272\172\311\001\225\301  
\225\121\350\253\054\370\261\206\040\351\077\313\065\133\322\027  
\351\052\376\203\023\027\100\356\210\142\145\133\325\073\140\351  
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\145\353\177\035\110\171\261\317\071\342\102\200\026\323\365\223  
\043\374\114\227\311\132\067\154\174\042\330\112\315\322\216\066  
\203\071\221\220\020\310\361\311\065\176\077\270\323\201\306\040  
\144\032\266\120\302\041\244\170\334\320\057\073\144\223\164\360  
\226\220\361\357\373\011\132\064\100\226\360\066\022\301\243\164  
\214\223\176\101\336\167\213\354\206\331\322\017\077\055\321\314  
\100\242\211\146\110\036\040\263\234\043\131\163\251\104\163\274  
\044\171\220\126\067\263\306\051\176\243\017\361\051\071\357\176  
\134\050\062\160\065\254\332\270\310\165\146\374\233\114\071\107  
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\133\146\132\212\210\015\367\026\271\077\121\145\053\146\152\213  
\321\070\122\242\326\106\021\372\374\232\034\164\236\217\227\013  
\002\117\144\306\365\150\323\113\055\377\244\067\036\213\077\277  
\104\276\141\106\241\204\075\010\047\114\201\040\167\211\010\352  
\147\100\136\154\010\121\137\064\132\214\226\150\315\327\367\211  
\302\034\323\062\000\257\122\313\323\140\133\052\072\107\176\153  
\060\063\241\142\051\177\112\271\341\055\347\024\043\016\016\030  
\107\341\171\374\025\125\320\261\374\045\161\143\165\063\034\043  
\053\257\134\331\355\107\167\140\016\073\017\036\322\300\334\144  
\005\211\374\170\326\134\054\046\103\251  
END

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Trust for Certificate "AC Raiz Certicamara S.A."  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "AC Ra\xC3\xADz Certic\xC3\xA1mara S.A."  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\313\241\305\370\260\343\136\270\271\105\022\323\371\064\242\351  
\006\020\323\066  
END  
CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
\223\052\076\366\375\043\151\015\161\040\324\053\107\231\053\246  
END  
CKA\_ISSUER MULTILINE\_OCTAL  
\060\173\061\013\060\011\006\003\125\004\006\023\002\103\117\061

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\141\144\040\103\141\155\145\162\141\154\040\144\145\040\103\145
\162\164\151\146\151\143\141\143\151\303\263\156\040\104\151\147
\151\164\141\154\040\055\040\103\145\162\164\151\143\303\241\155
\141\162\141\040\123\056\101\056\061\043\060\041\006\003\125\004
\003\014\032\101\103\040\122\141\303\255\172\040\103\145\162\164
\151\143\303\241\155\141\162\141\040\123\056\101\056
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\017\007\176\122\223\173\340\025\343\127\360\151\214\313\354
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TC TrustCenter Class 2 CA II"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TC TrustCenter Class 2 CA II"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060
\040\006\003\125\004\013\023\031\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\103\154\141\163\163\040\062\040\103
\101\061\045\060\043\006\003\125\004\003\023\034\124\103\040\124
\162\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163
\040\062\040\103\101\040\111\111
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165
\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060
\040\006\003\125\004\013\023\031\124\103\040\124\162\165\163\164
\103\145\156\164\145\162\040\103\154\141\163\163\040\062\040\103
\101\061\045\060\043\006\003\125\004\003\023\034\124\103\040\124
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\040\062\040\103\101\040\111\111
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\060\011\006\003\125\004\006\023\002\104\105\061\034\060\032\006  
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\156\164\145\162\040\107\155\142\110\061\042\060\040\006\003\125  
\004\013\023\031\124\103\040\124\162\165\163\164\103\145\156\164  
\145\162\040\103\154\141\163\163\040\062\040\103\101\061\045\060  
\043\006\003\125\004\003\023\034\124\103\040\124\162\165\163\164  
\103\145\156\164\145\162\040\103\154\141\163\163\040\062\040\103  
\101\040\111\111\060\036\027\015\060\066\060\061\061\062\061\064  
\063\070\064\063\132\027\015\062\065\061\062\063\061\062\062\065  
\071\065\071\132\060\166\061\013\060\011\006\003\125\004\006\023  
\002\104\105\061\034\060\032\006\003\125\004\012\023\023\124\103  
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\124\103\040\124\162\165\163\164\103\145\156\164\145\162\040\103  
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\202\001\017\000\060\202\001\012\002\202\001\001\000\253\200\207  
\233\216\360\303\174\207\327\350\044\202\021\263\074\335\103\142  
\356\370\303\105\332\350\341\240\137\321\052\262\352\223\150\337  
\264\310\326\103\351\304\165\131\177\374\341\035\370\061\160\043  
\033\210\236\047\271\173\375\072\322\311\251\351\024\057\220\276  
\003\122\301\111\315\366\375\344\010\146\013\127\212\242\102\240  
\270\325\177\151\134\220\062\262\227\015\312\112\334\106\076\002  
\125\211\123\343\032\132\313\066\306\007\126\367\214\317\021\364  
\114\273\060\160\004\225\245\366\071\214\375\163\201\010\175\211  
\136\062\036\042\251\042\105\113\260\146\056\060\314\237\145\375  
\374\313\201\251\361\340\073\257\243\206\321\211\352\304\105\171  
\120\135\256\351\041\164\222\115\213\131\202\217\224\343\351\112  
\361\347\111\260\024\343\365\142\313\325\162\275\037\271\322\237  
\240\315\250\372\001\310\331\015\337\332\374\107\235\263\310\124  
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\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125  
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\165\163\164\143\145\156\164\145\162\056\144\145\057\143\162\154  
\057\166\062\057\164\143\137\143\154\141\163\163\137\062\137\143  
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\045\062\060\062\045\062\060\103\101\045\062\060\111\111\054\117  
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\162\045\062\060\107\155\142\110\054\117\125\075\162\157\157\164  
\143\145\162\164\163\054\104\103\075\164\162\165\163\164\143\145  
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\146\151\143\141\164\145\122\145\166\157\143\141\164\151\157\156  
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\112\355\136\374\043\262\023\240\323\011\377\366\366\056\153\101  
\161\171\315\342\155\375\256\131\153\205\035\270\116\042\232\355  
\146\071\156\113\224\346\125\374\013\033\213\167\301\123\023\146  
\211\331\050\326\213\363\105\112\143\267\375\173\013\141\135\270  
\155\276\303\334\133\171\322\355\206\345\242\115\276\136\164\174  
\152\355\026\070\037\177\130\201\132\032\353\062\210\055\262\363  
\071\167\200\257\136\266\141\165\051\333\043\115\210\312\120\050  
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\206\005\234\251\031\230\345\061\162\014\000\342\147\331\100\340  
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\301\306\141\333\101\305\307\233\367\016\032\121\105\302\141\153  
\334\144\047\027\214\132\267\332\164\050\315\227\344\275

END

#

Trust for Certificate "TC TrustCenter Class 2 CA II"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL  
CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "TC TrustCenter Class 2 CA II"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\256\120\203\355\174\364\134\274\217\141\306\041\376\150\135\171  
\102\041\025\156  
END  
CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
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END

CKA\_ISSUER MULTILINE\_OCTAL

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\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060  
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\103\145\156\164\145\162\040\103\154\141\163\163\040\062\040\103  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

\002\016\056\152\000\001\000\002\037\327\122\041\054\021\134\073

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION

CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TC TrustCenter Class 3 CA II"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "TC TrustCenter Class 3 CA II"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
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\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060  
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\101\061\045\060\043\006\003\125\004\003\023\034\124\103\040\124  
\162\165\163\164\103\145\156\164\145\162\040\103\154\141\163\163  
\040\063\040\103\101\040\111\111

END

CKA\_ID UTF8 "0"

CKA\_ISSUER

MULTILINE\_OCTAL

\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061  
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\103\145\156\164\145\162\040\103\154\141\163\163\040\063\040\103  
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\064\061\065\067\132\027\015\062\065\061\062\063\061\062\062\065  
\071\065\071\132\060\166\061\013\060\011\006\003\125\004\006\023  
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END

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Trust for Certificate "TC TrustCenter Class 3 CA II"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "TC TrustCenter Class 3 CA II"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\200\045\357\364\156\160\310\324\162\044\145\204\376\100\073\212  
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CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\126\137\252\200\141\022\027\366\147\041\346\053\155\141\126\216

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\166\061\013\060\011\006\003\125\004\006\023\002\104\105\061

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\163\164\103\145\156\164\145\162\040\107\155\142\110\061\042\060

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\103\145\156\164\145\162\040\103\154\141\163\163\040\063\040\103

\101\061\045\060\043\006\003\125\004\003\023\034\124\103\040\124

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "TC TrustCenter Universal CA I"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL

CK\_FALSE

CKA\_LABEL UTF8 "TC TrustCenter Universal CA I"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\034\060\032\006\003\125\004\012\023\023\124\103\040\124\162\165

\163\164\103\145\156\164\145\162\040\107\155\142\110\061\044\060

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CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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CKA\_VALUE MULTILINE\_OCTAL

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Trust for Certificate "TC TrustCenter Universal CA I"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TC TrustCenter Universal CA I"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
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CKA_CERT_MD5_HASH MULTILINE_OCTAL
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Deutsche Telekom Root CA 2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Deutsche Telekom Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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UTF8 "0"
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\126\133\152\373\332\341\130\130\001\111\137\162\101\074\025\006  
\001\216\135\255\252\270\223\264\315\236\353\247\350\152\055\122  
\064\333\072\357\134\165\121\332\333\363\061\371\356\161\230\062  
\304\124\025\104\014\371\233\125\355\255\337\030\010\240\243\206  
\212\111\356\123\005\217\031\114\325\336\130\171\233\322\152\034  
\102\253\305\325\247\317\150\017\226\344\341\141\230\166\141\310  
\221\174\326\076\000\342\221\120\207\341\235\012\346\255\227\322  
\035\306\072\175\313\274\332\003\064\325\216\133\001\365\152\007  
\267\026\266\156\112\177\002\003\001\000\001\243\102\060\100\060  
\035\006\003\125\035\016\004\026\004\024\061\303\171\033\272\365  
\123\327\027\340\211\172\055\027\154\012\263\053\235\063\060\017  
\006\003\125\035\023\004\010\060\006\001\001\377\002\001\005\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\224\144\131\255\071\144\347\051\353\023\376\132\303  
\213\023\127\310\004\044\360\164\167\300\140\343\147\373\351\211  
\246\203\277\226\202\174\156\324\303\075\357\236\200\156\273\051  
\264\230\172\261\073\124\353\071\027\107\176\032\216\013\374\037  
\061\131\061\004\262\316\027\363\054\307\142\066\125\342\042\330  
\211\125\264\230\110\252\144\372\326\034\066\330\104\170\132\132  
\043\072\127\227\365\172\060\117\256\237\152\114\113\053\216\240

```
\003\343\076\340\251\324\322\173\322\263\250\342\162\074\255\236
\377\200\131\344\233\105\264\366\073\260\315\071\031\230\062\345
\352\041\141\220\344\061\041\216\064\261\367\057\065\112\205\020
\332\347\212\067\041\276\131\143\340\362\205\210\061\123\324\124
\024\205\160\171\364\056\006\167\047\165\057\037\270\212\371\376
\305\272\330\066\344\203\354\347\145\267\277\143\132\363\106\257
\201\224\067\324\101\214\326\043\326\036\317\365\150\033\104\143
\242\132\272\247\065\131\241\345\160\005\233\016\043\127\231\224
\012\155\272\071\143\050\206\222\363\030\204\330\373\321\317\005
\126\144\127
END
```

#

```
Trust for Certificate "Deutsche Telekom Root CA 2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Deutsche Telekom Root CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\205\244\010\300\234\031\076\135\121\130\175\315\326\023\060\375
\214\336\067\277
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\164\001\112\221\261\010\304\130\316\107\315\360\335\021\123\010
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\034\060\032\006\003\125\004\012\023\023\104\145\165\164\163\143
\150\145\040\124\145\154\145\153\157\155\040\101\107\061\037\060
\035\006\003\125\004\013\023\026\124\055\124\145\154\145\123\145
\143\040\124\162\165\163\164\040\103\145\156\164\145\162\061\043
\060\041\006\003\125\004\003\023\032\104\145\165\164\163\143\150
\145\040\124\145\154\145\153\157\155\040\122\157\157\164\040\103
\101\040\062
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\046
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

```
# Certificate "ComSign CA"
```



```
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ComSign CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\064\061\023\060\021\006\003\125\004\003\023\012\103\157\155
\123\151\147\156\040\103\101\061\020\060\016\006\003\125\004\012
\023\007\103\157\155\123\151\147\156\061\013\060\011\006\003\125
\004\006\023\002\111\114
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\064\061\023\060\021\006\003\125\004\003\023\012\103\157\155
\123\151\147\156\040\103\101\061\020\060\016\006\003\125\004\012
\023\007\103\157\155\123\151\147\156\061\013\060\011\006\003\125
\004\006\023\002\111\114
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\024\023\226\203\024\125\214\352\173\143\345\374\064\207
\167\104
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\223\060\202\002\173\240\003\002\001\002\002\020\024
\023\226\203\024\125\214\352\173\143\345\374\064\207\167\104\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\064
\061\023\060\021\006\003\125\004\003\023\012\103\157\155\123\151
\147\156\040\103\101\061\020\060\016\006\003\125\004\012\023\007
\103\157\155\123\151\147\156\061\013\060\011\006\003\125\004\006
\023\002\111\114\060\036\027\015\060\064\060\063\062\064\061\061
\063\062\061\070\132\027\015\062\071\060\063\061\071\061\065\060
\062\061\070\132\060\064\061\023\060\021\006\003\125\004\003\023
\012\103\157\155\123\151\147\156\040\103\101\061\020\060\016\006
\003\125\004\012\023\007\103\157\155\123\151\147\156\061\013\060
\011\006\003\125\004\006\023\002\111\114\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\360\344\124\151\053
\323\307\217\152\104\344\176\130\047\370\013\320\344\224\022\212
\361\033\070\070\057\037\061\234\006\324\054\247\336\013\052\256
\032\240\343\236\152\277\237\074\307\156\242\371\213\144\154\072
\255\205\125\121\124\245\070\125\270\253\203\004\362\077\144\066
\367\300\215\103\103\152\146\321\367\027\052\325\357\066\372\060
\020\102\327\123\315\371\372\063\163\114\263\351\204\040\212\326
\101\047\065\344\070\372\224\233\270\172\344\171\037\063\373\033
\330\041\011\050\174\115\030\151\136\144\212\172\031\223\312\176
\354\363\162\347\067\007\130\131\050\254\102\371\305\377\315\077
```

\347\245\372\070\261\320\014\307\331\122\032\123\326\201\314\102  
\172\065\133\355\113\072\172\366\265\216\314\377\017\174\344\140  
\066\207\057\255\360\241\045\175\377\322\113\021\210\160\124\246  
\101\250\147\123\122\102\136\344\064\236\344\276\243\354\252\142  
\135\335\303\114\246\202\101\344\063\013\254\311\063\017\144\202  
\127\052\375\014\255\066\341\014\256\113\305\357\073\231\331\043  
\263\133\135\264\127\354\164\160\014\052\117\002\003\001\000\001  
\243\201\240\060\201\235\060\014\006\003\125\035\023\004\005\060  
\003\001\001\377\060\075\006\003\125\035\037\004\066\060\064\060  
\062\240\060\240\056\206\054\150\164\164\160\072\057\057\146\145  
\144\151\162\056\143\157\155\163\151\147\156\056\143\157\056\151  
\154\057\143\162\154\057\103\157\155\123\151\147\156\103\101\056  
\143\162\154\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\206\060\037\006\003\125\035\043\004\030\060\026\200\024  
\113\001\233\076\126\032\145\066\166\313\173\227\252\222\005\356  
\062\347\050\061\060\035\006\003\125\035\016\004\026\004\024\113  
\001\233\076\126\032\145\066\166\313\173\227\252\222\005\356\062  
\347\050\061\060\015\006\011\052\206\110\206\367\015\001\001\005  
\005\000\003\202\001\001\000\320\331\245\176\376\051\140\105\235  
\176\203\317\156\274\107\156\365\032\236\124\166\102\161\264\074  
\130\077\055\100\045\102\366\201\234\361\211\020\310\016\252\170  
\117\070\011\127\260\074\300\010\374\065\216\361\110\121\215\014  
\161\164\272\204\304\327\162\233\204\174\070\116\144\006\047\052  
\341\247\265\354\010\231\264\012\015\324\205\163\310\022\341\065  
\355\361\005\061\035\163\231\014\353\226\312\335\323\346\205\252  
\360\212\373\165\301\362\011\074\145\145\144\363\114\330\255\313  
\210\151\363\344\203\267\014\275\027\132\226\027\312\133\377\255  
\273\034\351\055\204\200\330\041\276\205\122\331\324\164\271\151  
\205\272\115\355\050\062\353\371\141\112\344\304\066\036\031\334  
\157\204\021\037\225\365\203\050\030\250\063\222\103\047\335\135  
\023\004\105\117\207\325\106\315\075\250\272\360\363\270\126\044  
\105\353\067\307\341\166\117\162\071\030\337\176\164\162\307\163  
\055\071\352\140\346\255\021\242\126\207\173\303\150\232\376\370  
\214\160\250\337\145\062\364\244\100\214\241\302\104\003\016\224  
\000\147\240\161\000\202\110

END

#

Trust for Certificate "ComSign CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ComSign CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\341\244\133\024\032\041\332\032\171\364\032\102\251\141\326\151  
\315\006\064\301

END

```

CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\315\364\071\363\265\030\120\327\076\244\305\221\240\076\041\113
END
CKA_ISSUER MULTILINE_OCTAL
\060\064\061\023\060\021\006\003\125\004\003\023\012\103\157\155
\123\151\147\156\040\103\101\061\020\060\016\006\003\125\004\012
\023\007\103\157\155\123\151\147\156\061\013\060\011\006\003\125
\004\006\023\002\111\114
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\024\023\226\203\024\125\214\352\173\143\345\374\064\207
\167\104
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ComSign Secured CA"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ComSign Secured CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT
MULTILINE_OCTAL
\060\074\061\033\060\031\006\003\125\004\003\023\022\103\157\155
\123\151\147\156\040\123\145\143\165\162\145\144\040\103\101\061
\020\060\016\006\003\125\004\012\023\007\103\157\155\123\151\147
\156\061\013\060\011\006\003\125\004\006\023\002\111\114
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\033\060\031\006\003\125\004\003\023\022\103\157\155
\123\151\147\156\040\123\145\143\165\162\145\144\040\103\101\061
\020\060\016\006\003\125\004\012\023\007\103\157\155\123\151\147
\156\061\013\060\011\006\003\125\004\006\023\002\111\114
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\307\050\107\011\263\270\154\105\214\035\372\044\365
\066\116\351
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\253\060\202\002\223\240\003\002\001\002\002\021\000

```

\307\050\107\011\263\270\154\105\214\035\372\044\365\066\116\351  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\074\061\033\060\031\006\003\125\004\003\023\022\103\157\155\123  
\151\147\156\040\123\145\143\165\162\145\144\040\103\101\061\020  
\060\016\006\003\125\004\012\023\007\103\157\155\123\151\147\156  
\061\013\060\011\006\003\125\004\006\023\002\111\114\060\036\027  
\015\060\064\060\063\062\064\061\061\063\067\062\060\132\027\015  
\062\071\060\063\061\066\061\065\060\064\065\066\132\060\074\061  
\033\060\031\006\003\125\004\003\023\022\103\157\155\123\151\147  
\156\040\123\145\143\165\162\145\144\040\103\101\061\020\060\016  
\006\003\125\004\012\023\007\103\157\155\123\151\147\156\061\013  
\060\011\006\003\125\004\006\023\002\111\114\060\202\001\042\060  
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202  
\001\017\000\060\202\001\012\002\202\001\001\000\306\265\150\137  
\035\224\025\303\244\010\125\055\343\240\127\172\357\351\164\052  
\273\271\174\127\111\032\021\136\117\051\207\014\110\326\152\347  
\217\324\176\127\044\271\006\211\344\034\074\352\254\343\332\041  
\200\163\041\012\357\171\230\154\037\010\377\241\120\175\362\230  
\033\311\124\157\076\245\050\354\041\004\017\105\273\007\075\241  
\300\372\052\230\035\116\006\223\373\365\210\073\253\137\313\026  
\277\346\363\236\112\207\355\031\352\302\237\103\344\361\201\245  
\177\020\117\076\321\112\142\255\123\033\313\203\377\007\145\245  
\222\055\146\251\133\270\132\364\035\264\041\221\112\027\173\236  
\062\376\126\044\071\262\124\204\103\365\204\302\330\274\101\220  
\314\235\326\150\332\351\202\120\251\073\150\317\265\135\002\224  
\140\026\261\103\331\103\135\335\135\207\156\352\273\263\311\153  
\366\003\224\011\160\336\026\021\172\053\350\166\217\111\020\230  
\167\271\143\134\213\063\227\165\366\013\214\262\253\133\336\164  
\040\045\077\343\363\021\371\207\150\206\065\161\303\035\214\055  
\353\345\032\254\017\163\325\202\131\100\200\323\002\003\001\000  
\001\243\201\247\060\201\244\060\014\006\003\125\035\023\004\005  
\060\003\001\001\377\060\104\006\003\125\035\037\004\075\060\073  
\060\071\240\067\240\065\206\063\150\164\164\160\072\057\057\146  
\145\144\151\162\056\143\157\155\163\151\147\156\056\143\157\056  
\151\154\057\143\162\154\057\103\157\155\123\151\147\156\123\145  
\143\165\162\145\144\103\101\056\143\162\154\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\206\060\037\006\003\125  
\035\043\004\030\060\026\200\024\301\113\355\160\266\367\076\174  
\000\073\000\217\307\076\016\105\237\036\135\354\060\035\006\003  
\125\035\016\004\026\004\024\301\113\355\160\266\367\076\174\000  
\073\000\217\307\076\016\105\237\036\135\354\060\015\006\011\052  
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\026  
\317\356\222\023\120\253\173\024\236\063\266\102\040\152\324\025  
\275\011\253\374\162\350\357\107\172\220\254\121\301\144\116\351  
\210\275\103\105\201\343\146\043\077\022\206\115\031\344\005\260  
\346\067\302\215\332\006\050\311\017\211\244\123\251\165\077\260  
\226\373\253\114\063\125\371\170\046\106\157\033\066\230\373\102  
\166\301\202\271\216\336\373\105\371\143\033\142\073\071\006\312

```
\167\172\250\074\011\317\154\066\075\017\012\105\113\151\026\032
\105\175\063\003\145\371\122\161\220\046\225\254\114\014\365\213
\223\077\314\165\164\205\230\272\377\142\172\115\037\211\376\256
\275\224\000\231\277\021\245\334\340\171\305\026\013\175\002\141
\035\352\205\371\002\025\117\347\132\211\116\024\157\343\067\113
\205\365\301\074\141\340\375\005\101\262\222\177\303\035\240\320
\256\122\144\140\153\030\306\046\234\330\365\144\344\066\032\142
\237\212\017\076\377\155\116\031\126\116\040\221\154\237\064\063
\072\064\127\120\072\157\201\136\006\306\365\076\174\116\216\053
\316\145\006\056\135\322\052\123\164\136\323\156\047\236\217
END
```

#

```
Trust for Certificate "ComSign Secured CA"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ComSign Secured CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\371\315\016\054\332\166\044\301\217\275\360\360\253\266\105\270
\367\376\325\172
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\100\001\045\006\215\041\103\152\016\103\000\234\347\103\363\325
END
```

```
CKA_ISSUER
MULTILINE_OCTAL
\060\074\061\033\060\031\006\003\125\004\003\023\022\103\157\155
\123\151\147\156\040\123\145\143\165\162\145\144\040\103\101\061
\020\060\016\006\003\125\004\012\023\007\103\157\155\123\151\147
\156\061\013\060\011\006\003\125\004\006\023\002\111\114
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\307\050\107\011\263\270\154\105\214\035\372\044\365
\066\116\351
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

# Certificate "Cybertrust Global Root"

#

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Cybertrust Global Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\030\060\026\006\003\125\004\012\023\017\103\171\142
\145\162\164\162\165\163\164\054\040\111\156\143\061\037\060\035
\006\003\125\004\003\023\026\103\171\142\145\162\164\162\165\163
\164\040\107\154\157\142\141\154\040\122\157\157\164
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
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\164\040\107\154\157\142\141\154\040\122\157\157\164
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\110\206\367\015\001\001\005\005\000\060\073\061\030\060\026\006
\003\125\004\012\023\017\103\171\142\145\162\164\162\165\163\164
\054\040\111\156\143\061\037\060\035\006\003\125\004\003\023\026
\103\171\142\145\162\164\162\165\163\164\040\107\154\157\142\141
\154\040\122\157\157\164\060\036\027\015\060\066\061\062\061\065
\060\070\060\060\060\060\132\027\015\062\061\061\062\061\065\060
\070\060\060\060\060\132\060\073\061\030\060\026\006\003\125\004
\012\023\017\103\171\142\145\162\164\162\165\163\164\054\040\111
\156\143\061\037\060\035\006\003\125\004\003\023\026\103\171\142
\145\162\164\162\165\163\164\040\107\154\157\142\141\154\040\122
\157\157\164\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\370\310\274\275\024\120\146\023\377\360\323\171
\354\043\362\267\032\307\216\205\361\022\163\246\031\252\020\333
\234\242\145\164\132\167\076\121\175\126\366\334\043\266\324\355
\137\130\261\067\115\325\111\016\156\365\152\207\326\322\214\322
\047\306\342\377\066\237\230\145\240\023\116\306\052\144\233\325
\220\022\317\024\006\364\073\343\324\050\276\350\016\370\253\116
\110\224\155\216\225\061\020\134\355\242\055\275\325\072\155\262
\034\273\140\300\106\113\001\365\111\256\176\106\212\320\164\215
\241\014\002\316\356\374\347\217\270\153\146\363\177\104\000\277
\146\045\024\053\335\020\060\035\007\226\077\115\366\153\270\217
\267\173\014\245\070\353\336\107\333\325\135\071\374\210\247\363
\327\052\164\361\350\132\242\073\237\120\272\246\214\105\065\302
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\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
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\314\254\040\114\206\126\062\136\317\253\156\205\055\160\127\060
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\060\037\006\003\125\035\043\004\030\060\026\200\024\266\010\173
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\211\332\105\301\324\243\000\045\364\037\023\253\267\243\205\130
\151\302\060\255\330\025\212\055\343\311\315\201\132\370\163\043
\132\247\174\005\363\375\042\073\016\321\006\304\333\066\114\163
\004\216\345\260\042\344\305\363\056\245\331\043\343\270\116\112
\040\247\156\002\044\237\042\140\147\173\213\035\162\011\305\061
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\151\032\014\013\104\347\143\045\247\177\262\311\270\166\204\355
\043\366\175\007\253\105\176\323\337\263\277\351\212\266\315\250
\242\147\053\122\325\267\145\360\071\114\143\240\221\171\223\122
\017\124\335\203\273\237\321\217\247\123\163\303\313\377\060\354
\174\004\270\330\104\037\223\137\161\011\042\267\156\076\352\034
\003\116\235\032\040\141\373\201\067\354\136\374\012\105\253\327
\347\027\125\320\240\352\140\233\246\366\343\214\133\051\302\006
\140\024\235\055\227\114\251\223\025\235\141\304\001\137\110\326
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END

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Trust for Certificate "Cybertrust Global Root"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Cybertrust Global Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\103\345\261\277\370\170\214\254\034\307\312\112\232\306\042
\053\314\064\306
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END

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CKA_CERT_MD5_HASH MULTILINE_OCTAL
\162\344\112\207\343\151\100\200\167\352\274\343\364\377\360\341
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END

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CKA_ISSUER MULTILINE_OCTAL
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\145\162\164\162\165\163\164\054\040\111\156\143\061\037\060\035
\006\003\125\004\003\023\026\103\171\142\145\162\164\162\165\163
\164\040\107\154\157\142\141\154\040\122\157\157\164
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CKA_SERIAL_NUMBER
MULTILINE_OCTAL
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END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ePKI Root Certification Authority"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
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END
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\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
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\366\365\327\265\112\025\002\130\175\230\130\113\140\274\315\327  
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\345\034\230\101\231\337\041\207\350\225\006\152\012\263\152\107  
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\123\331\237\362\246\261\044\007\104\152\052\306\245\216\170\022  
\350\107\331\130\033\023\052\136\171\233\237\012\052\147\246\045  
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\014\113\054\234\303\222\205\064\141\313\017\270\233\112\103\122  
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\032\235\142\256\215\202\352\224\236\335\131\020\303\255\335\342  
\115\343\061\325\307\354\350\362\260\376\222\036\026\012\032\374  
\331\363\370\047\266\311\276\035\264\154\144\220\177\364\344\304  
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\204\324\076\040\205\367\112\075\053\234\375\052\012\011\115\352  
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END

#

Trust for Certificate "ePKI Root Certification Authority"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

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CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\147\145\015\361\176\216\176\133\202\100\244\364\126\113\317\342
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END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\033\056\000\312\046\006\220\075\255\376\157\025\150\323\153\263
END
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
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END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TUBITAK UEKAE Kok Sertifika Hizmet Saglayicisi - Surum 3"
#
CKA_CLASS CK_OBJECT_CLASS
CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T\xC3\x9c\x42\xC4xB0TAK UEKAE K\xC3xB6k Sertifika Hizmet
Sa\xC4\x9Flay\xC4\xB1\x63\xC4\xB1s\xC4\xB1 - S\xC3\xBCr\xC3\xBCm 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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\145\040\055\040\113\157\143\141\145\154\151\061\107\060\105\006
\003\125\004\012\014\076\124\303\274\162\153\151\171\145\040\102
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\060\041\006\003\125\004\013\014\032\113\141\155\165\040\123\145  
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\234\102\304\260\124\101\113\040\125\105\113\101\105\040\113\303  
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\202\001\053\061\013\060\011\006\003\125\004\006\023\002\124  
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\145\040\055\040\113\157\143\141\145\154\151\061\107\060\105\006  
\003\125\004\012\014\076\124\303\274\162\153\151\171\145\040\102  
\151\154\151\155\163\145\154\040\166\145\040\124\145\153\156\157  
\154\157\152\151\153\040\101\162\141\305\237\164\304\261\162\155  
\141\040\113\165\162\165\155\165\040\055\040\124\303\234\102\304  
\260\124\101\113\061\110\060\106\006\003\125\004\013\014\077\125  
\154\165\163\141\154\040\105\154\145\153\164\162\157\156\151\153  
\040\166\145\040\113\162\151\160\164\157\154\157\152\151\040\101  
\162\141\305\237\164\304\261\162\155\141\040\105\156\163\164\151  
\164\303\274\163\303\274\040\055\040\125\105\113\101\105\061\043  
\060\041\006\003\125\004\013\014\032\113\141\155\165\040\123\145  
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153  
\145\172\151\061\112\060\110\006\003\125\004\003\014\101\124\303  
\234\102\304\260\124\101\113\040\125\105\113\101\105\040\113\303  
\266\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172  
\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304\261  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\001\021

END

CKA\_VALUE MULTILINE\_OCTAL

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\061\030\060\026\006\003\125\004\007\014\017\107\145\142\172\145  
\040\055\040\113\157\143\141\145\154\151\061\107\060\105\006\003  
\125\004\012\014\076\124\303\274\162\153\151\171\145\040\102\151  
\154\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154

\157\152\151\153\040\101\162\141\305\237\164\304\261\162\155\141  
\040\113\165\162\165\155\165\040\055\040\124\303\234\102\304\260  
\124\101\113\061\110\060\106\006\003\125\004\013\014\077\125\154  
\165\163\141\154\040\105\154\145\153\164\162\157\156\151\153\040  
\166\145\040\113\162\151\160\164\157\154\157\152\151\040\101\162  
\141\305\237\164\304\261\162\155\141\040\105\156\163\164\151\164  
\303\274\163\303\274\040\055\040\125\105\113\101\105\061\043\060  
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\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145  
\172\151\061\112\060\110\006\003\125\004\003\014\101\124\303\234  
\102\304\260\124\101\113\040\125\105\113\101\105\040\113\303\266  
\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172\155  
\145\164\040\123\141\304\237\154\141\171\304\261\143\304\261\163  
\304\261\040\055\040\123\303\274\162\303\274\155\040\063\060\036  
\027\015\060\067\060\070\062\064\061\061\063\067\060\067\132\027  
\015\061\067\060\070\062\061\061\061\063\067\060\067\132\060\202  
\001\053\061\013\060\011\006\003\125\004\006\023\002\124\122\061  
\030\060\026\006\003\125\004\007\014\017\107\145\142\172\145\040  
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\152\151\153\040\101\162\141\305\237\164\304\261\162\155\141\040  
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\101\113\061\110\060\106\006\003\125\004\013\014\077\125\154\165  
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\305\237\164\304\261\162\155\141\040\105\156\163\164\151\164\303  
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\006\003\125\004\013\014\032\113\141\155\165\040\123\145\162\164  
\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145\172  
\151\061\112\060\110\006\003\125\004\003\014\101\124\303\234\102  
\304\260\124\101\113\040\125\105\113\101\105\040\113\303\266\153  
\040\123\145\162\164\151\146\151\153\141\040\110\151\172\155\145  
\164\040\123\141\304\237\154\141\171\304\261\143\304\261\163\304  
\261\040\055\040\123\303\274\162\303\274\155\040\063\060\202\001  
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\201\276\072\173\074\333\361\035\122\177\131\372\363\042\114\225  
\240\220\274\110\116\021\253\373\267\265\215\172\203\050\214\046  
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\073\264\146\352\314\100\374\343\252\154\262\313\001\333\062\277  
\322\353\205\317\241\015\125\303\133\070\127\160\270\165\306\171  
\321\024\060\355\033\130\133\153\357\065\362\241\041\116\305\316  
\174\231\137\154\271\270\042\223\120\247\315\114\160\152\276\152  
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\174\053\237\236\171\023\221\350\352\236\312\070\165\216\142\260  
\225\223\052\345\337\351\136\227\156\040\137\137\204\172\104\071

\031\100\034\272\125\053\373\060\262\201\357\204\343\334\354\230  
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\206\145\031\021\323\351\011\043\336\150\223\003\311\066\034\041  
\156\316\214\146\361\231\060\330\327\263\303\035\370\201\056\250  
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\004\024\275\210\207\311\217\366\244\012\013\252\353\305\376\221  
\043\235\253\112\212\062\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\003\202\001\001\000\035\174\372\111\217  
\064\351\267\046\222\026\232\005\164\347\113\320\155\071\154\303  
\046\366\316\270\061\274\304\337\274\052\370\067\221\030\334\004  
\310\144\231\053\030\155\200\003\131\311\256\370\130\320\076\355  
\303\043\237\151\074\206\070\034\236\357\332\047\170\321\204\067  
\161\212\074\113\071\317\176\105\006\326\055\330\212\115\170\022  
\326\255\302\323\313\322\320\101\363\046\066\112\233\225\154\014  
\356\345\321\103\047\146\301\210\367\172\263\040\154\352\260\151  
\053\307\040\350\014\003\304\101\005\231\342\077\344\153\370\240  
\206\201\307\204\306\037\325\113\201\022\262\026\041\054\023\241  
\200\262\136\014\112\023\236\040\330\142\100\253\220\352\144\112  
\057\254\015\001\022\171\105\250\057\207\031\150\310\342\205\307  
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\240\337\211\326\255\214\166\243\023\303\224\141\053\153\331\154  
\301\007\012\042\007\205\154\205\044\106\251\276\077\213\170\204  
\202\176\044\014\235\375\201\067\343\045\250\355\066\116\225\054  
\311\234\220\332\354\251\102\074\255\266\002

END

#

Trust for Certificate "TUBITAK UEKAE Kok Sertifika Hizmet Saglayicisi - Surum 3"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "T\x9c3\x9c\x42\xC4\xB0TAK UEKAE K\xC3\xB6k Sertifika Hizmet

Sa\xC4\x9F\lay\x4b1\x63\x4\x4b1s\x4b1 - S\xC3\xBCr\xC3\xBCm 3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\033\113\071\141\046\047\153\144\221\242\150\155\327\002\103\041  
\055\037\035\226

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\355\101\365\214\120\305\053\234\163\346\356\154\353\302\250\046

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\202\001\053\061\013\060\011\006\003\125\004\006\023\002\124  
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\154\157\152\151\153\040\101\162\141\305\237\164\304\261\162\155
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\260\124\101\113\061\110\060\106\006\003\125\004\013\014\077\125
\154\165\163\141\154\040\105\154\145\153\164\162\157\156\151\153
\040\166\145\040\113\162\151\160\164\157\154\157\152\151\040\101
\162\141\305\237\164\304\261\162\155\141\040\105\156\163\164\151
\164\303\274\163\303\274\040\055\040\125\105\113\101\105\061\043
\060\041\006\003\125\004\013\014\032\113\141\155\165\040\123\145
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\145\172\151\061\112\060\110\006\003\125\004\003\014\101\124\303
\234\102\304\260\124\101\113\040\125\105\113\101\105\040\113\303
\266\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172
\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304\261
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\001\021
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Buypass Class 2 CA 1"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 2 CA 1"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\033\006\003\125\004\003\014\024\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\103\101\040\061
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END

CKA\_ID UTF8 "0"

CKA\_ISSUER

MULTILINE\_OCTAL

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\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\035
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\060\033\006\003\125\004\003\014\024\102\165\171\160\141\163\163  
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END  
CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL  
\002\001\001  
END  
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\040\101\123\055\071\070\063\061\066\063\063\062\067\061\035\060  
\033\006\003\125\004\003\014\024\102\165\171\160\141\163\163\040  
\103\154\141\163\163\040\062\040\103\101\040\061\060\036\027\015  
\060\066\061\060\061\063\061\060\062\065\060\071\132\027\015\061  
\066\061\060\061\063\061\060\062\065\060\071\132\060\113\061\013  
\060\011\006\003\125\004\006\023\002\116\117\061\035\060\033\006  
\003\125\004\012\014\024\102\165\171\160\141\163\163\040\101\123  
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\000\060\202\001\012\002\202\001\001\000\213\074\007\105\330\366  
\337\346\307\312\272\215\103\305\107\215\260\132\301\070\333\222  
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\242\064\323\067\056\330\335\072\167\057\300\353\051\350\134\322  
\265\251\221\064\207\042\131\376\314\333\347\231\257\226\301\250  
\307\100\335\245\025\214\156\310\174\227\003\313\346\040\362\327  
\227\137\061\241\057\067\322\276\356\276\251\255\250\114\236\041  
\146\103\073\250\274\363\011\243\070\325\131\044\301\302\107\166  
\261\210\134\202\073\273\053\246\004\327\214\007\217\315\325\101  
\035\360\256\270\051\054\224\122\140\064\224\073\332\340\070\321  
\235\063\076\025\364\223\062\305\000\332\265\051\146\016\072\170  
\017\041\122\137\002\345\222\173\045\323\222\036\057\025\235\201  
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\260\036\170\302\115\066\150\313\126\046\301\122\301\275\166\367  
\130\325\162\176\037\104\166\273\000\211\035\026\235\121\065\357  
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\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
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\215\232\131\213\374\173\173\234\243\257\070\260\071\355\220\161  
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\201\302\025\325\172\176\014\051\254\067\036\034\174\166\122\225  
\332\265\177\043\241\051\167\145\311\062\235\250\056\126\253\140



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\166\316\026\264\215\177\170\300\325\231\121\203\177\136\331\276
\014\250\120\355\042\307\255\005\114\166\373\355\356\036\107\144
\366\367\047\175\134\050\017\105\305\134\142\136\246\232\221\221
\267\123\027\056\334\255\140\235\226\144\071\275\147\150\262\256
\005\313\115\347\137\037\127\206\325\040\234\050\373\157\023\070
\365\366\021\222\366\175\231\136\037\014\350\253\104\044\051\162
\100\075\066\122\257\214\130\220\163\301\354\141\054\171\241\354
\207\265\077\332\115\331\041\000\060\336\220\332\016\323\032\110
\251\076\205\013\024\213\214\274\101\236\152\367\016\160\300\065
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\055\216\047\203\222\040\241\327\025\177\361\056\030\356\364\110
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\366\324\357\277\114\210\150
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END

#

Trust for Certificate "Buypass Class 2 CA 1"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN

CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 2 CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\042\141\323\314
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\270\010\232\360\003\314\033\015\310\154\013\166\241\165\144\043
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END

CKA\_ISSUER MULTILINE\_OCTAL

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\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\035
\060\033\006\003\125\004\003\014\024\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\103\101\040\061
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\001\001
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "Buypass Class 3"

```
CA 1"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Bypass Class 3 CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\113\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\035
\060\033\006\003\125\004\003\014\024\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\113\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\035
\060\033\006\003\125\004\003\014\024\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\123\060\202\002\073\240\003\002\001\002\002\001\002
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\113\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\035\060
\033\006\003\125\004\003\014\024\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\103\101\040\061\060\036\027\015
\060\065\060\065\060\071\061\064\061\063\060\063\132\027\015\061
\065\060\065\060\071\061\064\061\063\060\063\132\060\113\061\013
\060\011\006\003\125\004\006\023\002\116\117\061\035\060\033\006
\003\125\004\012\014\024\102\165\171\160\141\163\163\040\101\123
\055\071\070\063\061\066\063\063\062\067\061\035\060\033\006\003
\125\004\003\014\024\102\165\171\160\141\163\163\040\103\154\141
\163\163\040\063\040\103\101\040\061\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\244\216\327\164\331\051
\144\336\137\037\207\200\221\352\116\071\346\031\306\104\013\200
\325\013\257\123\007\213\022\275\346\147\360\002\261\211\366\140
\212\304\133\260\102\321\300\041\250\313\341\233\357\144\121\266
\247\317\025\365\164\200\150\004\220\240\130\242\346\164\246\123
\123\125\110\143\077\222\126\335\044\116\216\370\272\053\377\363
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\064\212\236\050\327\064\237\254\057\326\017\361\244\057\275\122  
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\373\274\141\257\251\243\024\373\302\027\027\204\154\340\174\210  
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\232\105\005\102\127\200\364\116\316\331\256\071\366\310\123\020  
\014\145\072\107\173\140\302\326\372\221\311\306\161\154\275\221  
\207\074\221\206\111\253\363\017\240\154\046\166\136\034\254\233  
\161\345\215\274\233\041\036\234\326\070\176\044\200\025\061\202  
\226\261\111\323\142\067\133\210\014\012\142\064\376\247\110\176  
\231\261\060\213\220\067\225\034\250\037\245\054\215\364\125\310  
\333\335\131\012\302\255\170\240\364\213\002\003\001\000\001\243  
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\070  
\024\346\310\360\251\244\003\364\116\076\042\243\133\362\326\340  
\255\100\164\060\016\006\003\125\035\017\001\001\377\004\004\003  
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\135\026\157\354\241\076\011\134\221\025\052\052\331\200\041\117  
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\023\063\161\147\056\151\372\251\054\077\146\300\022\131\115\013  
\124\002\222\204\273\333\022\357\203\160\160\170\310\123\372\337  
\306\306\377\334\210\057\007\300\111\235\062\127\140\323\362\366  
\231\051\137\347\252\001\314\254\063\250\034\012\273\221\304\003  
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\245\040\026\224\153\171\246\242\022\264\273\032\244\043\172\137  
\360\256\204\044\344\363\053\373\212\044\243\047\230\145\332\060  
\165\166\374\031\221\350\333\353\233\077\062\277\100\227\007\046  
\272\314\363\224\205\112\172\047\223\317\220\102\324\270\133\026  
\246\347\313\100\003\335\171

END

#

Trust for Certificate "Buypass Class 3 CA 1"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "Buypass Class 3 CA 1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\141\127\072\021\337\016\330\176\325\222\145\042\352\320\126\327  
\104\263\043\161

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\337\074\163\131\201\347\071\120\201\004\114\064\242\313\263\173

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END
CKA_ISSUER MULTILINE_OCTAL
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\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\035
\060\033\006\003\125\004\003\014\024\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\103\101\040\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "EBG Elektronik Sertifika Hizmet Saglayicisi"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "EBG Elektronik Sertifika Hizmet Sa\xC4\x9Flay\xc4\xb1\x63\xc4\xb1s\xc4\xb1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\070\060\066\006\003\125\004\003\014\057\105\102
\107\040\105\154\145\153\164\162\157\156\151\153\040\123\145\162
\164\151\146\151\153\141\040\110\151\172\155\145\164\040\123\141
\304\237\154\141\171\304\261\143\304\261\163\304\261\061\067\060
\065\006\003\125\004\012\014\056\105\102\107\040\102\151\154\151
\305\237\151\155\040\124\145\153\156\157\154\157\152\151\154\145
\162\151\040\166\145\040\110\151\172\155\145\164\154\145\162\151
\040\101\056\305\236\056\061\013\060\011\006\003\125\004\006\023
\002\124\122
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\070\060\066\006\003\125\004\003\014\057\105\102
\107\040\105\154\145\153\164\162\157\156\151\153\040\123\145\162
\164\151\146\151\153\141\040\110\151\172\155\145\164\040\123\141
\304\237\154\141\171\304\261\143\304\261\163\304\261\061\067\060
\065\006\003\125\004\012\014\056\105\102\107\040\102\151\154\151
\305\237\151\155\040\124\145\153\156\157\154\157\152\151\154\145
\162\151\040\166\145\040\110\151\172\155\145\164\154\145\162\151
\040\101\056\305\236\056\061\013\060\011\006\003\125\004\006\023

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\002\124\122

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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END

CKA\_VALUE MULTILINE\_OCTAL

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\015\001\001\005\005\000\060\201\200\061\070\060\066\006\003\125  
\004\003\014\057\105\102\107\040\105\154\145\153\164\162\157\156  
\151\153\040\123\145\162\164\151\146\151\153\141\040\110\151\172  
\155\145\164\040\123\141\304\237\154\141\171\304\261\143\304\261  
\163\304\261\061\067\060\065\006\003\125\004\012\014\056\105\102  
\107\040\102\151\154\151\305\237\151\155\040\124\145\153\156\157  
\154\157\152\151\154\145\162\151\040\166\145\040\110\151\172\155  
\145\164\154\145\162\151\040\101\056\305\236\056\061\013\060\011  
\006\003\125\004\006\023\002\124\122\060\036\027\015\060\066\060  
\070\061\067\060\060\062\061\060\071\132\027\015\061\066\060\070  
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\006\003\125\004\003\014\057\105\102\107\040\105\154\145\153\164  
\162\157\156\151\153\040\123\145\162\164\151\146\151\153\141\040  
\110\151\172\155\145\164\040\123\141\304\237\154\141\171\304\261  
\143\304\261\163\304\261\061\067\060\065\006\003\125\004\012\014  
\056\105\102\107\040\102\151\154\151\305\237\151\155\040\124\145  
\153\156\157\154\157\152\151\154\145\162\151\040\166\145\040\110  
\151\172\155\145\164\154\145\162\151\040\101\056\305\236\056\061  
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\162\126\156\023\140\245\001\221\342\133\305\315\127\037\167\143  
\121\377\057\075\333\271\077\252\251\065\347\171\320\365\320\044  
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\042\332\020\272\137\222\374\030\047\012\250\252\104\372\056\054  
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\037\156\052\017\235\263\350\073\344\014\156\172\332\127\375\327  
\353\171\213\136\040\006\323\166\013\154\002\225\243\226\344\313  
\166\121\321\050\235\241\032\374\104\242\115\314\172\166\250\015  
\075\277\027\117\042\210\120\375\256\266\354\220\120\112\133\237  
\225\101\252\312\017\262\112\376\200\231\116\243\106\025\253\370  
\163\102\152\302\146\166\261\012\046\025\335\223\222\354\333\251  
\137\124\042\122\221\160\135\023\352\110\354\156\003\154\331\335  
\154\374\353\015\003\377\246\203\022\233\361\251\223\017\305\046  
\114\061\262\143\231\141\162\347\052\144\231\322\270\351\165\342  
\174\251\251\232\032\252\303\126\333\020\232\074\203\122\266\173

\226\267\254\207\167\250\271\362\147\013\224\103\263\257\076\163  
\372\102\066\261\045\305\012\061\046\067\126\147\272\243\013\175  
\326\367\211\315\147\241\267\072\036\146\117\366\240\125\024\045  
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\176\215\110\205\036\144\137\333\124\242\254\325\172\002\171\153  
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\164\174\127\362\326\326\364\066\211\033\370\051\154\213\271\366  
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\235\331\243\143\060\141\060\017\006\003\125\035\023\001\001\377  
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\135\273\114\032\312\222\015\337\107\044\036\263\044\332\221\210  
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\373\323\375\154\051\370\025\106\240\150\046\314\223\122\256\202  
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\114\262\201\266\060\316\131\117\332\131\035\152\172\244\105\260  
\202\046\201\206\166\365\365\020\000\270\356\263\011\350\117\207  
\002\007\256\044\134\360\137\254\012\060\314\212\100\240\163\004  
\301\373\211\044\366\232\034\134\267\074\012\147\066\005\010\061  
\263\257\330\001\150\052\340\170\217\164\336\270\121\244\214\154  
\040\075\242\373\263\324\011\375\173\302\200\252\223\154\051\230  
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\064\357\212\123\221\210\135\032\224\243\077\174\042\370\327\210  
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\334\161\007\356\044\071\152\372\355\245\254\070\057\371\036\020  
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\357\220\277\300\354\202\023\133\215\326\162\054\223\116\217\152  
\051\337\205\074\323\015\340\242\030\022\314\125\057\107\267\247  
\233\002\376\101\366\210\114\155\332\251\001\107\203\144\047\142  
\020\202\326\022\173\136\003\037\064\251\311\221\376\257\135\155  
\206\047\267\043\252\165\030\312\040\347\260\017\327\211\016\246  
\147\042\143\364\203\101\053\006\113\273\130\325\321\327\267\271

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\367\322\206\103\174\042\276\226\371\275\001\250\107\335\345\073
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END

#

Trust for Certificate "EBG Elektronik Sertifika Hizmet Saglayicisi"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "EBG Elektronik Sertifika Hizmet Sa\xC4\x9Flay\xc4\xb1\x63\xc4\xb1s\xc4\xb1"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\214\226\272\353\335\053\007\007\110\356\060\062\146\240\363\230
\156\174\256\130
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END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

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\054\040\046\235\313\032\112\000\205\265\267\132\256\302\001\067
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END

CKA\_ISSUER MULTILINE\_OCTAL

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\304\237\154\141\171\304\261\143\304\261\163\304\261\061\067\060
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\305\237\151\155\040\124\145\153\156\157\154\157\152\151\154\145
\162\151\040\166\145\040\110\151\172\155\145\164\154\145\162\151
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\002\124\122
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\010\114\257\163\102\034\216\164\002
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "certSIGN ROOT CA"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

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CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
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\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
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END
CKA_VALUE MULTILINE_OCTAL
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\006\005\026\160\002\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\060\073\061\013\060\011\006\003\125\004\006\023
\002\122\117\061\021\060\017\006\003\125\004\012\023\010\143\145
\162\164\123\111\107\116\061\031\060\027\006\003\125\004\013\023
\020\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103
\101\060\036\027\015\060\066\060\067\060\064\061\067\062\060\060
\064\132\027\015\063\061\060\067\060\064\061\067\062\060\060\064
\132\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117
\061\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123
\111\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145
\162\164\123\111\107\116\040\122\117\117\124\040\103\101\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\267
\063\271\176\310\045\112\216\265\333\264\050\033\252\127\220\350
\321\042\323\144\272\323\223\350\324\254\206\141\100\152\140\127
\150\124\204\115\274\152\124\002\005\377\337\233\232\052\256\135
\007\217\112\303\050\177\357\373\053\372\171\361\307\255\360\020
\123\044\220\213\146\311\250\210\253\257\132\243\000\351\276\272
\106\356\133\163\173\054\027\202\201\136\142\054\241\002\145\263
\275\305\053\000\176\304\374\003\063\127\015\355\342\372\316\135
\105\326\070\315\065\266\262\301\320\234\201\112\252\344\262\001
\134\035\217\137\231\304\261\255\333\210\041\353\220\010\202\200
\363\060\243\103\346\220\202\256\125\050\111\355\133\327\251\020
\070\016\376\217\114\133\233\106\352\101\365\260\010\164\303\320
\210\063\266\174\327\164\337\334\204\321\103\016\165\071\241\045
\100\050\352\170\313\016\054\056\071\235\214\213\156\026\034\057
```



\046\202\020\342\343\145\224\012\004\300\136\367\135\133\370\020  
\342\320\272\172\113\373\336\067\000\000\032\133\050\343\322\234  
\163\076\062\207\230\241\311\121\057\327\336\254\063\263\117\002  
\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016  
\004\026\004\024\340\214\233\333\045\111\263\361\174\206\326\262  
\102\207\013\320\153\240\331\344\060\015\006\011\052\206\110\206  
\367\015\001\001\005\005\000\003\202\001\001\000\076\322\034\211  
\056\065\374\370\165\335\346\177\145\210\364\162\114\311\054\327  
\062\116\363\335\031\171\107\275\216\073\133\223\017\120\111\044  
\023\153\024\006\162\357\011\323\241\241\343\100\204\311\347\030  
\062\164\074\110\156\017\237\113\324\367\036\323\223\206\144\124  
\227\143\162\120\325\125\317\372\040\223\002\242\233\303\043\223  
\116\026\125\166\240\160\171\155\315\041\037\317\057\055\274\031  
\343\210\061\370\131\032\201\011\310\227\246\164\307\140\304\133  
\314\127\216\262\165\375\033\002\011\333\131\157\162\223\151\367  
\061\101\326\210\070\277\207\262\275\026\171\371\252\344\276\210  
\045\335\141\047\043\034\265\061\007\004\066\264\032\220\275\240  
\164\161\120\211\155\274\024\343\017\206\256\361\253\076\307\240  
\011\314\243\110\321\340\333\144\347\222\265\317\257\162\103\160  
\213\371\303\204\074\023\252\176\222\233\127\123\223\372\160\302  
\221\016\061\371\233\147\135\351\226\070\136\137\263\163\116\210  
\025\147\336\236\166\020\142\040\276\125\151\225\103\000\071\115  
\366\356\260\132\116\111\104\124\130\137\102\203

END

#

Trust for Certificate "certSIGN ROOT CA"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "certSIGN ROOT CA"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

\372\267\356\066\227\046\142\373\055\260\052\366\277\003\375\350  
\174\113\057\233

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

\030\230\300\326\351\072\374\371\260\365\014\367\113\001\104\027

END

CKA\_ISSUER MULTILINE\_OCTAL

\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061  
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111  
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162  
\164\123\111\107\116\040\122\117\117\124\040\103\101

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\006\040\006\005\026\160\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED
CK_BBOOL CK_FALSE
```

```
#
# Certificate "CNNIC ROOT"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CNNIC ROOT"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\062\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\016\060\014\006\003\125\004\012\023\005\103\116\116\111\103\061
\023\060\021\006\003\125\004\003\023\012\103\116\116\111\103\040
\122\117\117\124
```

```
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\062\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\016\060\014\006\003\125\004\012\023\005\103\116\116\111\103\061
\023\060\021\006\003\125\004\003\023\012\103\116\116\111\103\040
\122\117\117\124
```

```
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\111\063\000\001
```

```
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\125\060\202\002\075\240\003\002\001\002\002\004\111
\063\000\001\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\062\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\016\060\014\006\003\125\004\012\023\005\103\116\116\111
\103\061\023\060\021\006\003\125\004\003\023\012\103\116\116\111
\103\040\122\117\117\124\060\036\027\015\060\067\060\064\061\066
\060\067\060\071\061\064\132\027\015\062\067\060\064\061\066\060
\067\060\071\061\064\132\060\062\061\013\060\011\006\003\125\004
\006\023\002\103\116\061\016\060\014\006\003\125\004\012\023\005
\103\116\116\111\103\061\023\060\021\006\003\125\004\003\023\012
\103\116\116\111\103\040\122\117\117\124\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\323\065\367\077\163
\167\255\350\133\163\027\302\321\157\355\125\274\156\352\350\244
```

\171\262\154\303\243\357\341\237\261\073\110\205\365\232\134\041  
\042\020\054\305\202\316\332\343\232\156\067\341\207\054\334\271  
\014\132\272\210\125\337\375\252\333\037\061\352\001\361\337\071  
\001\301\023\375\110\122\041\304\125\337\332\330\263\124\166\272  
\164\261\267\175\327\300\350\366\131\305\115\310\275\255\037\024  
\332\337\130\104\045\062\031\052\307\176\176\216\256\070\260\060  
\173\107\162\011\061\360\060\333\303\033\166\051\273\151\166\116  
\127\371\033\144\242\223\126\267\157\231\156\333\012\004\234\021  
\343\200\037\313\143\224\020\012\251\341\144\202\061\371\214\047  
\355\246\231\000\366\160\223\030\370\241\064\206\243\335\172\302  
\030\171\366\172\145\065\317\220\353\275\063\223\237\123\253\163  
\073\346\233\064\040\057\035\357\251\035\143\032\240\200\333\003  
\057\371\046\032\206\322\215\273\251\276\122\072\207\147\110\015  
\277\264\240\330\046\276\043\137\163\067\177\046\346\222\004\243  
\177\317\040\247\267\363\072\312\313\231\313\002\003\001\000\001  
\243\163\060\161\060\021\006\011\140\206\110\001\206\370\102\001  
\001\004\004\003\002\000\007\060\037\006\003\125\035\043\004\030  
\060\026\200\024\145\362\061\255\052\367\367\335\122\226\012\307  
\002\301\016\357\246\325\073\021\060\017\006\003\125\035\023\001  
\001\377\004\005\060\003\001\001\377\060\013\006\003\125\035\017  
\004\004\003\002\001\376\060\035\006\003\125\035\016\004\026\004  
\024\145\362\061\255\052\367\367\335\122\226\012\307\002\301\016  
\357\246\325\073\021\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\001\001\000\113\065\356\314\344\256\277  
\303\156\255\237\225\073\113\077\133\036\337\127\051\242\131\312  
\070\342\271\032\377\236\346\156\062\335\036\256\352\065\267\365  
\223\221\116\332\102\341\303\027\140\120\362\321\134\046\271\202  
\267\352\155\344\234\204\347\003\171\027\257\230\075\224\333\307  
\272\000\347\270\277\001\127\301\167\105\062\014\073\361\264\034  
\010\260\375\121\240\241\335\232\035\023\066\232\155\267\307\074  
\271\341\305\331\027\372\203\325\075\025\240\074\273\036\013\342  
\310\220\077\250\206\014\374\371\213\136\205\313\117\133\113\142  
\021\107\305\105\174\005\057\101\261\236\020\151\033\231\226\340  
\125\171\373\116\206\231\270\224\332\206\070\152\223\243\347\313  
\156\345\337\352\041\125\211\234\175\175\177\230\365\000\211\356  
\343\204\300\134\226\265\305\106\352\106\340\205\125\266\033\311  
\022\326\301\315\315\200\363\002\001\074\310\151\313\105\110\143  
\330\224\320\354\205\016\073\116\021\145\364\202\214\246\075\256  
\056\042\224\011\310\134\352\074\201\135\026\052\003\227\026\125  
\011\333\212\101\202\236\146\233\021

END

#

Trust for Certificate "CNNIC ROOT"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "CNNIC ROOT"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\213\257\114\233\035\360\052\222\367\332\022\216\271\033\254\364
\230\140\113\157
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\041\274\202\253\111\304\023\073\113\262\053\134\153\220\234\031
END
CKA_ISSUER MULTILINE_OCTAL
\060\062\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\016\060\014\006\003\125\004\012\023\005\103\116\116\111\103\061
\023\060\021\006\003\125\004\003\023\012\103\116\116\111\103\040
\122\117\117\124
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\111\063\000\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ApplicationCA - Japanese Government"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ApplicationCA - Japanese Government"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\034\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145
\163\145\040\107\157\166\145\162\156\155\145\156\164\061\026\060
\024\006\003\125\004\013\023\015\101\160\160\154\151\143\141\164
\151\157\156\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\034\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145
\163\145\040\107\157\166\145\162\156\155\145\156\164\061\026\060
\024\006\003\125\004\013\023\015\101\160\160\154\151\143\141\164
\151\157\156\103\101
END
CKA_SERIAL_NUMBER

```

MULTILINE\_OCTAL

\002\001\061

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\003\240\060\202\002\210\240\003\002\001\002\002\001\061  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060  
\103\061\013\060\011\006\003\125\004\006\023\002\112\120\061\034  
\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145\163  
\145\040\107\157\166\145\162\156\155\145\156\164\061\026\060\024  
\006\003\125\004\013\023\015\101\160\160\154\151\143\141\164\151  
\157\156\103\101\060\036\027\015\060\067\061\062\061\062\061\065  
\060\060\060\060\132\027\015\061\067\061\062\061\062\061\065\060  
\060\060\060\132\060\103\061\013\060\011\006\003\125\004\006\023  
\002\112\120\061\034\060\032\006\003\125\004\012\023\023\112\141  
\160\141\156\145\163\145\040\107\157\166\145\162\156\155\145\156  
\164\061\026\060\024\006\003\125\004\013\023\015\101\160\160\154  
\151\143\141\164\151\157\156\103\101\060\202\001\042\060\015\006  
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017  
\000\060\202\001\012\002\202\001\001\000\247\155\340\164\116\207  
\217\245\006\336\150\242\333\206\231\113\144\015\161\360\012\005  
\233\216\252\341\314\056\322\152\073\301\172\264\227\141\215\212  
\276\306\232\234\006\264\206\121\344\067\016\164\170\176\137\212  
\177\224\244\327\107\010\375\120\132\126\344\150\254\050\163\240  
\173\351\177\030\222\100\117\055\235\365\256\104\110\163\066\006  
\236\144\054\073\064\043\333\134\046\344\161\171\217\324\156\171  
\042\271\223\301\312\315\301\126\355\210\152\327\240\071\041\004  
\127\054\242\365\274\107\101\117\136\064\042\225\265\037\051\155  
\136\112\363\115\162\276\101\126\040\207\374\351\120\107\327\060  
\024\356\134\214\125\272\131\215\207\374\043\336\223\320\004\214  
\375\357\155\275\320\172\311\245\072\152\162\063\306\112\015\005  
\027\052\055\173\261\247\330\326\360\276\364\077\352\016\050\155  
\101\141\043\166\170\303\270\145\244\363\132\256\314\302\252\331  
\347\130\336\266\176\235\205\156\237\052\012\157\237\003\051\060  
\227\050\035\274\267\317\124\051\116\121\061\371\047\266\050\046  
\376\242\143\346\101\026\360\063\230\107\002\003\001\000\001\243  
\201\236\060\201\233\060\035\006\003\125\035\016\004\026\004\024  
\124\132\313\046\077\161\314\224\106\015\226\123\352\153\110\320  
\223\376\102\165\060\016\006\003\125\035\017\001\001\377\004\004  
\003\002\001\006\060\131\006\003\125\035\021\004\122\060\120\244  
\116\060\114\061\013\060\011\006\003\125\004\006\023\002\112\120  
\061\030\060\026\006\003\125\004\012\014\017\346\227\245\346\234  
\254\345\233\275\346\224\277\345\272\234\061\043\060\041\006\003  
\125\004\013\014\032\343\202\242\343\203\227\343\203\252\343\202  
\261\343\203\274\343\202\267\343\203\247\343\203\263\103\101\060  
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\071\152\104\166\167\070\072\354\243\147\106\017  
\371\213\006\250\373\152\220\061\316\176\354\332\321\211\174\172

```
\353\056\014\275\231\062\347\260\044\326\303\377\365\262\210\011
\207\054\343\124\341\243\246\262\010\013\300\205\250\310\322\234
\161\366\035\237\140\374\070\063\023\341\236\334\013\137\332\026
\120\051\173\057\160\221\017\231\272\064\064\215\225\164\305\176
\170\251\146\135\275\312\041\167\102\020\254\146\046\075\336\221
\253\375\025\360\157\355\154\137\020\370\363\026\366\003\212\217
\247\022\021\014\313\375\077\171\301\234\375\142\356\243\317\124
\014\321\053\137\027\076\343\076\277\300\053\076\011\233\376\210
\246\176\264\222\027\374\043\224\201\275\156\247\305\214\302\353
\021\105\333\370\101\311\226\166\352\160\137\171\022\153\344\243
\007\132\005\357\047\111\317\041\237\212\114\011\160\146\251\046
\301\053\021\116\063\322\016\374\326\154\322\016\062\144\150\377
\255\005\170\137\003\035\250\343\220\254\044\340\017\100\247\113
\256\213\050\267\202\312\030\007\346\267\133\164\351\040\031\177
\262\033\211\124
```

END

#

Trust for Certificate "ApplicationCA - Japanese Government"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "ApplicationCA - Japanese Government"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

```
\177\212\260\317\320\121\207\152\146\363\066\017\107\310\215\214
\323\065\374\164
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\176\043\116\133\247\245\264\045\351\000\007\164\021\142\256\326
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\103\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\034\060\032\006\003\125\004\012\023\023\112\141\160\141\156\145
\163\145\040\107\157\166\145\162\156\155\145\156\164\061\026\060
\024\006\003\125\004\013\023\015\101\160\160\154\151\143\141\164
\151\157\156\103\101
```

END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

```
\002\001\061
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION

CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

```

# Certificate "GeoTrust Primary Certification Authority - G3"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\070\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\063
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\070\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\254\156\224\031\262\171\113\101\366\047\251\303\030
\017\037
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\376\060\202\002\346\240\003\002\001\002\002\020\025
\254\156\224\031\262\171\113\101\366\047\251\303\030\017\037\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061\026
\060\024\006\003\125\004\012\023\015\107\145\157\124\162\165\163
\164\040\111\156\143\056\061\071\060\067\006\003\125\004\013\023
\060\050\143\051\040\062\060\060\070\040\107\145\157\124\162\165
\163\164\040\111\156\143\056\040\055\040\106\157\162\040\141\165
\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154

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\171\061\066\060\064\006\003\125\004\003\023\055\107\145\157\124  
\162\165\163\164\040\120\162\151\155\141\162\171\040\103\145\162  
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157  
\162\151\164\171\040\055\040\107\063\060\036\027\015\060\070\060  
\064\060\062\060\060\060\060\060\060\132\027\015\063\067\061\062  
\060\061\062\063\065\071\065\071\132\060\201\230\061\013\060\011  
\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003\125  
\004\012\023\015\107\145\157\124\162\165\163\164\040\111\156\143  
\056\061\071\060\067\006\003\125\004\013\023\060\050\143\051\040  
\062\060\060\070\040\107\145\157\124\162\165\163\164\040\111\156  
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151  
\172\145\144\040\165\163\145\040\157\156\154\171\061\066\060\064  
\006\003\125\004\003\023\055\107\145\157\124\162\165\163\164\040  
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143  
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040  
\055\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206  
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012  
\002\202\001\001\000\334\342\136\142\130\035\063\127\071\062\063  
\372\353\313\207\214\247\324\112\335\006\210\352\144\216\061\230  
\245\070\220\036\230\317\056\143\053\360\106\274\104\262\211\241  
\300\050\014\111\160\041\225\237\144\300\246\223\022\002\145\046  
\206\306\245\211\360\372\327\204\240\160\257\117\032\227\077\006  
\104\325\311\353\162\020\175\344\061\050\373\034\141\346\050\007  
\104\163\222\042\151\247\003\210\154\235\143\310\122\332\230\047  
\347\010\114\160\076\264\311\022\301\305\147\203\135\063\363\003  
\021\354\152\320\123\342\321\272\066\140\224\200\273\141\143\154  
\133\027\176\337\100\224\036\253\015\302\041\050\160\210\377\326  
\046\154\154\140\004\045\116\125\176\175\357\277\224\110\336\267  
\035\335\160\215\005\137\210\245\233\362\302\356\352\321\100\101  
\155\142\070\035\126\006\305\003\107\121\040\031\374\173\020\013  
\016\142\256\166\125\277\137\167\276\076\111\001\123\075\230\045  
\003\166\044\132\035\264\333\211\352\171\345\266\263\073\077\272  
\114\050\101\177\006\254\152\216\301\320\366\005\035\175\346\102  
\206\343\245\325\107\002\003\001\000\001\243\102\060\100\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060  
\035\006\003\125\035\016\004\026\004\024\304\171\312\216\241\116  
\003\035\034\334\153\333\061\133\224\076\077\060\177\055\060\015  
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001  
\001\000\055\305\023\317\126\200\173\172\170\275\237\256\054\231  
\347\357\332\337\224\136\011\151\247\347\156\150\214\275\162\276  
\107\251\016\227\022\270\112\361\144\323\071\337\045\064\324\301  
\315\116\201\360\017\004\304\044\263\064\226\306\246\252\060\337  
\150\141\163\327\371\216\205\211\357\016\136\225\050\112\052\047  
\217\020\216\056\174\206\304\002\236\332\014\167\145\016\104\015  
\222\375\375\263\026\066\372\021\015\035\214\016\007\211\152\051  
\126\367\162\364\335\025\234\167\065\146\127\253\023\123\330\216  
\301\100\305\327\023\026\132\162\307\267\151\001\304\172\261\203



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\001\150\175\215\101\241\224\030\301\045\134\374\360\376\203\002
\207\174\015\015\317\056\010\134\112\100\015\076\354\201\141\346
\044\333\312\340\016\055\007\262\076\126\334\215\365\101\205\007
\110\233\014\013\313\111\077\175\354\267\375\313\215\147\211\032
\253\355\273\036\243\000\010\010\027\052\202\134\061\135\106\212
\055\017\206\233\164\331\105\373\324\100\261\172\252\150\055\206
\262\231\042\341\301\053\307\234\370\363\137\250\202\022\353\031
\021\055
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END

#

Trust for Certificate "GeoTrust Primary Certification Authority - G3"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "GeoTrust Primary Certification Authority - G3"

CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL

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\003\236\355\270\013\347\240\074\151\123\211\073\040\322\331\062
\072\114\052\375
```

END

CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL

```
\265\350\064\066\311\020\104\130\110\160\155\056\203\324\270\005
```

END

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\070\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\063
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

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\002\020\025\254\156\224\031\262\171\113\101\366\047\251\303\030
\017\037
```

END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "thawte Primary Root CA - G2"

```

#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "thawte Primary Root CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\204\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\070\060\066\006\003\125\004\013
\023\057\050\143\051\040\062\060\060\067\040\164\150\141\167\164
\145\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165
\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154
\171\061\044\060\042\006\003\125\004\003\023\033\164\150\141\167
\164\145\040\120\162\151\155\141\162\171\040\122\157\157\164\040
\103\101\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\070\060\066\006\003\125\004\013
\023\057\050\143\051\040\062\060\060\067\040\164\150\141\167\164
\145\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165
\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154
\171\061\044\060\042\006\003\125\004\003\023\033\164\150\141\167
\164\145\040\120\162\151\155\141\162\171\040\122\157\157\164\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\020\065\374\046\134\331\204\117\311\075\046\075\127\233\256
\327\126
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\210\060\202\002\015\240\003\002\001\002\002\020\065
\374\046\134\331\204\117\311\075\046\075\127\233\256\327\126\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\204\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006
\003\125\004\012\023\014\164\150\141\167\164\145\054\040\111\156
\143\056\061\070\060\066\006\003\125\004\013\023\057\050\143\051
\040\062\060\060\067\040\164\150\141\167\164\145\054\040\111\156
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151
\172\145\144\040\165\163\145\040\157\156\154\171\061\044\060\042
\006\003\125\004\003\023\033\164\150\141\167\164\145\040\120\162
\151\155\141\162\171\040\122\157\157\164\040\103\101\040\055\040

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\107\062\060\036\027\015\060\067\061\061\060\065\060\060\060\060
\060\060\132\027\015\063\070\060\061\061\070\062\063\065\071\065
\071\132\060\201\204\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\025\060\023\006\003\125\004\012\023\014\164\150\141
\167\164\145\054\040\111\156\143\056\061\070\060\066\006\003\125
\004\013\023\057\050\143\051\040\062\060\060\067\040\164\150\141
\167\164\145\054\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\044\060\042\006\003\125\004\003\023\033\164\150
\141\167\164\145\040\120\162\151\155\141\162\171\040\122\157\157
\164\040\103\101\040\055\040\107\062\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\242\325\234\202\173\225\235\361\122\170\207\376\212\026\277
\005\346\337\243\002\117\015\007\306\000\121\272\014\002\122\055
\042\244\102\071\304\376\217\352\311\301\276\324\115\377\237\172
\236\342\261\174\232\255\247\206\011\163\207\321\347\232\343\172
\245\252\156\373\272\263\160\300\147\210\242\065\324\243\232\261
\375\255\302\357\061\372\250\271\363\373\010\306\221\321\373\051
\225\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\232\330\000\060\000\347\153\177\205\030\356\213\266\316\212
\014\370\021\341\273\060\012\006\010\052\206\110\316\075\004\003
\003\003\151\000\060\146\002\061\000\335\370\340\127\107\133\247
\346\012\303\275\365\200\212\227\065\015\033\211\074\124\206\167
\050\312\241\364\171\336\265\346\070\260\360\145\160\214\177\002
\124\302\277\377\330\241\076\331\317\002\061\000\304\215\224\374
\334\123\322\334\235\170\026\037\025\063\043\123\122\343\132\061
\135\235\312\256\275\023\051\104\015\047\133\250\347\150\234\022
\367\130\077\056\162\002\127\243\217\241\024\056
END
```

#

```
Trust for Certificate "thawte Primary Root CA - G2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN
CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "thawte Primary Root CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\252\333\274\042\043\217\304\001\241\047\273\070\335\364\035\333
\010\236\360\022
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\164\235\352\140\044\304\375\042\123\076\314\072\162\331\051\117
END
CKA_ISSUER MULTILINE_OCTAL
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```
\060\201\204\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\070\060\066\006\003\125\004\013
\023\057\050\143\051\040\062\060\060\067\040\164\150\141\167\164
\145\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165
\164\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154
\171\061\044\060\042\006\003\125\004\003\023\033\164\150\141\167
\164\145\040\120\162\151\155\141\162\171\040\122\157\157\164\040
\103\101\040\055\040\107\062
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END

CKA\_SERIAL\_NUMBER MULTILINE\_OCTAL

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\002\020\065\374\046\134\331\204\117\311\075\046\075\127\233\256
\327\126
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END

CKA\_TRUST\_SERVER\_AUTH

CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUST\_UNKNOWN

CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR

CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "thawte Primary Root CA - G3"

#

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "thawte Primary Root CA - G3"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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\060\201\256\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157
\156\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040
\062\060\060\070\040\164\150\141\167\164\145\054\040\111\156\143
\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172
\145\144\040\165\163\145\040\157\156\154\171\061\044\060\042\006
\003\125\004\003\023\033\164\150\141\167\164\145\040\120\162\151
\155\141\162\171\040\122\157\157\164\040\103\101\040\055\040\107
\063
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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

```
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
```

\145\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013  
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040  
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157  
\156\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040  
\062\060\060\070\040\164\150\141\167\164\145\054\040\111\156\143  
\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172  
\145\144\040\165\163\145\040\157\156\154\171\061\044\060\042\006  
\003\125\004\003\023\033\164\150\141\167\164\145\040\120\162\151  
\155\141\162\171\040\122\157\157\164\040\103\101\040\055\040\107  
\063

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\140\001\227\267\106\247\352\264\264\232\326\113\057\367  
\220\373

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\052\060\202\003\022\240\003\002\001\002\002\020\140  
\001\227\267\106\247\352\264\264\232\326\113\057\367\220\373\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\256\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025  
\060\023\006\003\125\004\012\023\014\164\150\141\167\164\145\054  
\040\111\156\143\056\061\050\060\046\006\003\125\004\013\023\037  
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145  
\162\166\151\143\145\163\040\104\151\166\151\163\151\157\156\061  
\070\060\066\006\003\125\004\013\023\057\050\143\051\040\062\060  
\060\070\040\164\150\141\167\164\145\054\040\111\156\143\056\040  
\055\040\106\157\162\040\141\165\164\150\157\162\151\172\145\144  
\040\165\163\145\040\157\156\154\171\061\044\060\042\006\003\125  
\004\003\023\033\164\150\141\167\164\145\040\120\162\151\155\141  
\162\171\040\122\157\157\164\040\103\101\040\055\040\107\063\060  
\036\027\015\060\070\060\064\060\062\060\060\060\060\060\132  
\027\015\063\067\061\062\060\061\062\063\065\071\065\071\132\060  
\201\256\061\013\060\011\006\003\125\004\006\023\002\125\123\061  
\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164\145  
\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013\023  
\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123  
\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157\156  
\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040\062  
\060\060\070\040\164\150\141\167\164\145\054\040\111\156\143\056  
\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172\145  
\144\040\165\163\145\040\157\156\154\171\061\044\060\042\006\003  
\125\004\003\023\033\164\150\141\167\164\145\040\120\162\151\155  
\141\162\171\040\122\157\157\164\040\103\101\040\055\040\107\063  
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\262\277\047\054\373\333\330\133\335\170\173\033\236\167\146  
\201\313\076\274\174\256\363\246\047\232\064\243\150\061\161\070

\063\142\344\363\161\146\171\261\251\145\243\245\213\325\217\140  
\055\077\102\314\252\153\062\300\043\313\054\101\335\344\337\374  
\141\234\342\163\262\042\225\021\103\030\137\304\266\037\127\154  
\012\005\130\042\310\066\114\072\174\245\321\317\206\257\210\247  
\104\002\023\164\161\163\012\102\131\002\370\033\024\153\102\337  
\157\137\272\153\202\242\235\133\347\112\275\036\001\162\333\113  
\164\350\073\177\177\175\037\004\264\046\233\340\264\132\254\107  
\075\125\270\327\260\046\122\050\001\061\100\146\330\331\044\275  
\366\052\330\354\041\111\134\233\366\172\351\177\125\065\176\226  
\153\215\223\223\047\313\222\273\352\254\100\300\237\302\370\200  
\317\135\364\132\334\316\164\206\246\076\154\013\123\312\275\222  
\316\031\006\162\346\014\134\070\151\307\004\326\274\154\316\133  
\366\367\150\234\334\045\025\110\210\241\351\251\370\230\234\340  
\363\325\061\050\141\021\154\147\226\215\071\231\313\302\105\044  
\071\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035  
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125  
\035\016\004\026\004\024\255\154\252\224\140\234\355\344\377\372  
\076\012\164\053\143\003\367\266\131\277\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\032\100  
\330\225\145\254\011\222\211\306\071\364\020\345\251\016\146\123  
\135\170\336\372\044\221\273\347\104\121\337\306\026\064\012\357  
\152\104\121\352\053\007\212\003\172\303\353\077\012\054\122\026  
\240\053\103\271\045\220\077\160\251\063\045\155\105\032\050\073  
\047\317\252\303\051\102\033\337\073\114\300\063\064\133\101\210  
\277\153\053\145\257\050\357\262\365\303\252\146\316\173\126\356  
\267\310\313\147\301\311\234\032\030\270\304\303\111\003\361\140  
\016\120\315\106\305\363\167\171\367\266\025\340\070\333\307\057  
\050\240\014\077\167\046\164\331\045\022\332\061\332\032\036\334  
\051\101\221\042\074\151\247\273\002\362\266\134\047\003\211\364  
\006\352\233\344\162\202\343\241\011\301\351\000\031\323\076\324  
\160\153\272\161\246\252\130\256\364\273\351\154\266\357\207\314  
\233\273\377\071\346\126\141\323\012\247\304\134\114\140\173\005  
\167\046\172\277\330\007\122\054\142\367\160\143\331\071\274\157  
\034\302\171\334\166\051\257\316\305\054\144\004\136\210\066\156  
\061\324\100\032\142\064\066\077\065\001\256\254\143\240

END

#

Trust for Certificate "thawte Primary Root CA - G3"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "thawte Primary Root CA - G3"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\361\213\123\215\033\351\003\266\246\360\126\103\133\027\025\211  
\312\363\153\362

```
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\373\033\135\103\212\224\315\104\306\166\362\103\113\107\347\061
END
CKA_ISSUER
MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\164\150\141\167\164
\145\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\123\145\162\166\151\143\145\163\040\104\151\166\151\163\151\157
\156\061\070\060\066\006\003\125\004\013\023\057\050\143\051\040
\062\060\060\070\040\164\150\141\167\164\145\054\040\111\156\143
\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151\172
\145\144\040\165\163\145\040\157\156\154\171\061\044\060\042\006
\003\125\004\003\023\033\164\150\141\167\164\145\040\120\162\151
\155\141\162\171\040\122\157\157\164\040\103\101\040\055\040\107
\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\140\001\227\267\106\247\352\264\264\232\326\113\057\367
\220\373
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GeoTrust Primary Certification Authority - G2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Primary Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\067\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
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\150\157\162\151\164\171\040\055\040\107\062
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\067\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\074\262\364\110\012\000\342\376\353\044\073\136\140\076
\303\153
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\256\060\202\002\065\240\003\002\001\002\002\020\074
\262\364\110\012\000\342\376\353\044\073\136\140\076\303\153\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\230\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006
\003\125\004\012\023\015\107\145\157\124\162\165\163\164\040\111
\156\143\056\061\071\060\067\006\003\125\004\013\023\060\050\143
\051\040\062\060\060\067\040\107\145\157\124\162\165\163\164\040
\111\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157
\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061\066
\060\064\006\003\125\004\003\023\055\107\145\157\124\162\165\163
\164\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062\060\036\027\015\060\067\061\061\060\065
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062
\063\065\071\065\071\132\060\201\230\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023
\015\107\145\157\124\162\165\163\164\040\111\156\143\056\061\071
\060\067\006\003\125\004\013\023\060\050\143\051\040\062\060\060
\067\040\107\145\157\124\162\165\163\164\040\111\156\143\056\040
\055\040\106\157\162\040\141\165\164\150\157\162\151\172\145\144
\040\165\163\145\040\157\156\154\171\061\066\060\064\006\003\125
\004\003\023\055\107\145\157\124\162\165\163\164\040\120\162\151
\155\141\162\171\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\025\261\350\375\003\025\103
\345\254\353\207\067\021\142\357\322\203\066\122\175\105\127\013
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\112\215\173\124\073\072\156\137\025\002\300\120\246\317\045\057
\175\312\110\270\307\120\143\034\052\041\010\174\232\066\330\013
\376\321\046\305\130\061\060\050\045\363\135\135\243\270\266\245
\264\222\355\154\054\237\353\335\103\211\242\074\113\110\221\035
\120\354\046\337\326\140\056\275\041\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\025\137\065\127\121\125\373
\045\262\255\003\151\374\001\243\372\276\021\125\325\060\012\006
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060
\144\226\131\246\350\011\336\213\272\372\132\210\210\360\037\221
\323\106\250\362\112\114\002\143\373\154\137\070\333\056\101\223
\251\016\346\235\334\061\034\262\240\247\030\034\171\341\307\066
\002\060\072\126\257\232\164\154\366\373\203\340\063\323\010\137
\241\234\302\133\237\106\326\266\313\221\006\143\242\006\347\063
\254\076\250\201\022\320\313\272\320\222\013\266\236\226\252\004
\017\212
END
```

```
#
Trust for Certificate "GeoTrust Primary Certification Authority - G2"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GeoTrust Primary Certification Authority - G2"
CKA_CERT_SHA1_HASH
MULTILINE_OCTAL
\215\027\204\325\067\363\003\175\354\160\376\127\213\121\232\231
\346\020\327\260
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\001\136\330\153\275\157\075\216\241\061\370\022\340\230\163\152
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\107\145\157\124\162
\165\163\164\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\050\143\051\040\062\060\060\067\040\107\145\157\124
\162\165\163\164\040\111\156\143\056\040\055\040\106\157\162\040
\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040\157
\156\154\171\061\066\060\064\006\003\125\004\003\023\055\107\145
\157\124\162\165\163\164\040\120\162\151\155\141\162\171\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\074\262\364\110\012\000\342\376\353\044\073\136\140\076
```

```
\303\153
END
CKA_TRUST_SERVER_AUTH
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "VeriSign Universal Root Certification Authority"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "VeriSign Universal Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
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```
\060\201\275\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\062\060\060\070\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\070\060\066\006\003\125\004\003\023
\057\126\145\162\151\123\151\147\156\040\125\156\151\166\145\162
\163\141\154\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
```

```
CKA_ID
UTF8 "0"
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\275\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\062\060\060\070\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\070\060\066\006\003\125\004\003\023
\057\126\145\162\151\123\151\147\156\040\125\156\151\166\145\162
\163\141\154\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
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CKA_SERIAL_NUMBER
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MULTILINE\_OCTAL

\002\020\100\032\304\144\041\263\023\041\003\016\273\344\022\032  
\305\035

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\004\271\060\202\003\241\240\003\002\001\002\002\020\100  
\032\304\144\041\263\023\041\003\016\273\344\022\032\305\035\060  
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201  
\275\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027  
\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151\147  
\156\054\040\111\156\143\056\061\037\060\035\006\003\125\004\013  
\023\026\126\145\162\151\123\151\147\156\040\124\162\165\163\164  
\040\116\145\164\167\157\162\153\061\072\060\070\006\003\125\004  
\013\023\061\050\143\051\040\062\060\060\070\040\126\145\162\151  
\123\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162  
\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040  
\157\156\154\171\061\070\060\066\006\003\125\004\003\023\057\126  
\145\162\151\123\151\147\156\040\125\156\151\166\145\162\163\141  
\154\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036  
\027\015\060\070\060\064\060\062\060\060\060\060\060\132\027  
\015\063\067\061\062\060\061\062\063\065\071\065\071\132\060\201  
\275\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027  
\060\025\006\003\125\004\012\023\016\126\145\162\151\123\151\147  
\156\054\040\111\156\143\056\061\037\060\035\006\003\125\004\013  
\023\026\126\145\162\151\123\151\147\156\040\124\162\165\163\164  
\040\116\145\164\167\157\162\153\061\072\060\070\006\003\125\004  
\013\023\061\050\143\051\040\062\060\060\070\040\126\145\162\151  
\123\151\147\156\054\040\111\156\143\056\040\055\040\106\157\162  
\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145\040  
\157\156\154\171\061\070\060\066\006\003\125\004\003\023\057\126  
\145\162\151\123\151\147\156\040\125\156\151\166\145\162\163\141  
\154\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141  
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202  
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\054\276\366\365\367\102\342\345\277\207\142\211\137\000\113\337  
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\354\315\202\141\361\070\346\117\227\230\052\132\215

END

#

Trust for Certificate "VeriSign Universal Root Certification Authority"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "VeriSign Universal Root Certification Authority"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
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\173\267\015\124  
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CKA\_CERT\_MD5\_HASH MULTILINE\_OCTAL  
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END

CKA\_ISSUER MULTILINE\_OCTAL

\060\201\275\061\013\060\011\006\003\125\004\006\023\002\125\123  
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\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003  
\125\004\013\023\061\050\143\051\040\062\060\060\070\040\126\145  
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\145\040\157\156\154\171\061\070\060\066\006\003\125\004\003\023  
\057\126\145\162\151\123\151\147\156\040\125\156\151\166\145\162  
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END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\100\032\304\144\041\263\023\041\003\016\273\344\022\032  
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END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#

# Certificate "VeriSign Class 3 Public Primary Certification Authority - G4"

#

CKA\_CLASS CK\_OBJECT\_CLASS

CKO\_CERTIFICATE

CKA\_TOKEN CK\_BBOOL CK\_TRUE

CKA\_PRIVATE CK\_BBOOL CK\_FALSE

CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

CKA\_LABEL UTF8 "VeriSign Class 3 Public Primary Certification Authority - G4"

CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509

CKA\_SUBJECT MULTILINE\_OCTAL

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END

CKA\_ID

UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

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CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\020\057\200\376\043\214\016\042\017\110\147\022\050\221\207  
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CKA\_VALUE MULTILINE\_OCTAL

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\111\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126  
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\164\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061  
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\123\151\147\156\040\103\154\141\163\163\040\063\040\120\165\142  
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END

#

Trust for Certificate "VeriSign Class 3 Public Primary Certification Authority - G4"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE  
CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "VeriSign Class 3 Public Primary Certification Authority - G4"  
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\072\122\341\347\375\157\072\343\157\363\157\231\033\371\042\101  
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CKA\_ISSUER MULTILINE\_OCTAL  
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CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\020\057\200\376\043\214\016\042\017\110\147\022\050\221\207  
\254\263  
END

CKA\_TRUST\_SERVER\_AUTH CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_EMAIL\_PROTECTION CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_CODE\_SIGNING CK\_TRUST CKT\_NETSCAPE\_TRUSTED\_DELEGATOR  
CKA\_TRUST\_STEP\_UP\_APPROVED CK\_BBOOL CK\_FALSE

#  
# Certificate "NetLock Arany (Class Gold) Ftanúsítvány"  
#  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_CERTIFICATE  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"  
CKA\_CERTIFICATE\_TYPE CK\_CERTIFICATE\_TYPE CKC\_X\_509  
CKA\_SUBJECT MULTILINE\_OCTAL  
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\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145  
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003  
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\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145  
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141  
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UTF8 "0"
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MULTILINE_OCTAL
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\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050
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\247\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021
\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145\163
\164\061\025\060\023\006\003\125\004\012\014\014\116\145\164\114
\157\143\153\040\113\146\164\056\061\067\060\065\006\003\125\004
\013\014\056\124\141\156\303\272\163\303\255\164\166\303\241\156
\171\153\151\141\144\303\263\153\040\050\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163
\051\061\065\060\063\006\003\125\004\003\014\054\116\145\164\114
\157\143\153\040\101\162\141\156\171\040\050\103\154\141\163\163
\040\107\157\154\144\051\040\106\305\221\164\141\156\303\272\163
\303\255\164\166\303\241\156\171\060\202\001\042\060\015\006\011
```

\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000  
\060\202\001\012\002\202\001\001\000\304\044\136\163\276\113\155  
\024\303\241\364\343\227\220\156\322\060\105\036\074\356\147\331  
\144\340\032\212\177\312\060\312\203\343\040\301\343\364\072\323  
\224\137\032\174\133\155\277\060\117\204\047\366\237\037\111\274  
\306\231\012\220\362\017\365\177\103\204\067\143\121\213\172\245  
\160\374\172\130\315\216\233\355\303\106\154\204\160\135\332\363  
\001\220\043\374\116\060\251\176\341\047\143\347\355\144\074\240  
\270\311\063\143\376\026\220\377\260\270\375\327\250\300\300\224  
\103\013\266\325\131\246\236\126\320\044\037\160\171\257\333\071  
\124\015\145\165\331\025\101\224\001\257\136\354\366\215\361\377  
\255\144\376\040\232\327\134\353\376\246\037\010\144\243\213\166  
\125\255\036\073\050\140\056\207\045\350\252\257\037\306\144\106  
\040\267\160\177\074\336\110\333\226\123\267\071\167\344\032\342  
\307\026\204\166\227\133\057\273\031\025\205\370\151\205\365\231  
\247\251\362\064\247\251\266\246\003\374\157\206\075\124\174\166  
\004\233\153\371\100\135\000\064\307\056\231\165\235\345\210\003  
\252\115\370\003\322\102\166\300\033\002\003\000\250\213\243\105  
\060\103\060\022\006\003\125\035\023\001\001\377\004\010\060\006  
\001\001\377\002\001\004\060\016\006\003\125\035\017\001\001\377  
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004  
\024\314\372\147\223\360\266\270\320\245\300\036\363\123\375\214  
\123\337\203\327\226\060\015\006\011\052\206\110\206\367\015\001  
\001\013\005\000\003\202\001\001\000\253\177\356\034\026\251\234  
\074\121\000\240\300\021\010\005\247\231\346\157\001\210\124\141  
\156\361\271\030\255\112\255\376\201\100\043\224\057\373\165\174  
\057\050\113\142\044\201\202\013\365\141\361\034\156\270\141\070  
\353\201\372\142\241\073\132\142\323\224\145\304\341\346\155\202  
\370\057\045\160\262\041\046\301\162\121\037\214\054\303\204\220  
\303\132\217\272\317\364\247\145\245\353\230\321\373\005\262\106  
\165\025\043\152\157\205\143\060\200\360\325\236\037\051\034\302  
\154\260\120\131\135\220\133\073\250\015\060\317\277\175\177\316  
\361\235\203\275\311\106\156\040\246\371\141\121\272\041\057\173  
\276\245\025\143\241\324\225\207\361\236\271\363\211\363\075\205  
\270\270\333\276\265\271\051\371\332\067\005\000\111\224\003\204  
\104\347\277\103\061\317\165\213\045\321\364\246\144\365\222\366  
\253\005\353\075\351\245\013\066\142\332\314\006\137\066\213\266  
\136\061\270\052\373\136\366\161\337\104\046\236\304\346\015\221  
\264\056\165\225\200\121\152\113\060\246\260\142\241\223\361\233  
\330\316\304\143\165\077\131\107\261

END

#

Trust for Certificate "NetLock Arany (Class Gold) Ftanúsítvány"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE

```

CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\006\010\077\131\077\025\241\004\240\151\244\153\251\003\320\006
\267\227\011\221
END
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\305\241\267\377\163\335\326\327\064\062\030\337\374\074\255\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION
CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Staat der Nederlanden Root CA - G2"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\062
END

```

CKA\_ID UTF8 "0"

CKA\_ISSUER MULTILINE\_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061  
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061  
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040  
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040  
\122\157\157\164\040\103\101\040\055\040\107\062

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\000\230\226\214

END

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\312\060\202\003\262\240\003\002\001\002\002\004\000  
\230\226\214\060\015\006\011\052\206\110\206\367\015\001\001\013  
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116  
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141  
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145  
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141  
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145  
\156\040\122\157\157\164\040\103\101\040\055\040\107\062\060\036  
\027\015\060\070\060\063\062\066\061\061\061\070\061\067\132\027  
\015\062\060\060\063\062\065\061\061\060\063\061\060\132\060\132  
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060  
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145  
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060  
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145  
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157  
\157\164\040\103\101\040\055\040\107\062\060\202\002\042\060\015  
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002  
\017\000\060\202\002\012\002\202\002\001\000\305\131\347\157\165  
\252\076\113\234\265\270\254\236\013\344\371\331\312\253\135\217  
\265\071\020\202\327\257\121\340\073\341\000\110\152\317\332\341  
\006\103\021\231\252\024\045\022\255\042\350\000\155\103\304\251  
\270\345\037\211\113\147\275\141\110\357\375\322\340\140\210\345  
\271\030\140\050\303\167\053\255\260\067\252\067\336\144\131\052  
\106\127\344\113\271\370\067\174\325\066\347\200\301\266\363\324  
\147\233\226\350\316\327\306\012\123\320\153\111\226\363\243\013  
\005\167\110\367\045\345\160\254\060\024\040\045\343\177\165\132  
\345\110\370\116\173\003\007\004\372\202\141\207\156\360\073\304  
\244\307\320\365\164\076\245\135\032\010\362\233\045\322\366\254  
\004\046\076\125\072\142\050\245\173\262\060\257\370\067\302\321  
\272\326\070\375\364\357\111\060\067\231\046\041\110\205\001\251  
\345\026\347\334\220\125\337\017\350\070\315\231\067\041\117\135  
\365\042\157\152\305\022\026\140\027\125\362\145\146\246\247\060  
\221\070\301\070\035\206\004\204\272\032\045\170\136\235\257\314  
\120\140\326\023\207\122\355\143\037\155\145\175\302\025\030\164

\312\341\176\144\051\214\162\330\026\023\175\013\111\112\361\050  
\033\040\164\153\305\075\335\260\252\110\011\075\056\202\224\315  
\032\145\331\053\210\232\231\274\030\176\237\356\175\146\174\076  
\275\224\270\201\316\315\230\060\170\301\157\147\320\276\137\340  
\150\355\336\342\261\311\054\131\170\222\252\337\053\140\143\362  
\345\136\271\343\312\372\177\120\206\076\242\064\030\014\011\150  
\050\021\034\344\341\271\134\076\107\272\062\077\030\314\133\204  
\365\363\153\164\304\162\164\341\343\213\240\112\275\215\146\057  
\352\255\065\332\040\323\210\202\141\360\022\042\266\274\320\325  
\244\354\257\124\210\045\044\074\247\155\261\162\051\077\076\127  
\246\177\125\257\156\046\306\376\347\314\100\134\121\104\201\012  
\170\336\112\316\125\277\035\325\331\267\126\357\360\166\377\013  
\171\265\257\275\373\251\151\221\106\227\150\200\024\066\035\263  
\177\273\051\230\066\245\040\372\202\140\142\063\244\354\326\272  
\007\247\156\305\317\024\246\347\326\222\064\330\201\365\374\035  
\135\252\134\036\366\243\115\073\270\367\071\002\003\001\000\001  
\243\201\227\060\201\224\060\017\006\003\125\035\023\001\001\377  
\004\005\060\003\001\001\377\060\122\006\003\125\035\040\004\113  
\060\111\060\107\006\004\125\035\040\000\060\077\060\075\006\010  
\053\006\001\005\005\007\002\001\026\061\150\164\164\160\072\057  
\057\167\167\167\056\160\153\151\157\166\145\162\150\145\151\144  
\056\156\154\057\160\157\154\151\143\151\145\163\057\162\157\157  
\164\055\160\157\154\151\143\171\055\107\062\060\016\006\003\125  
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125  
\035\016\004\026\004\024\221\150\062\207\025\035\211\342\265\361  
\254\066\050\064\215\013\174\142\210\353\060\015\006\011\052\206  
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\250\101  
\112\147\052\222\201\202\120\156\341\327\330\263\071\073\363\002  
\025\011\120\121\357\055\275\044\173\210\206\073\371\264\274\222  
\011\226\271\366\300\253\043\140\006\171\214\021\116\121\322\171  
\200\063\373\235\110\276\354\101\103\201\037\176\107\100\034\345  
\172\010\312\252\213\165\255\024\304\302\350\146\074\202\007\247  
\346\047\202\133\030\346\017\156\331\120\076\212\102\030\051\306  
\264\126\374\126\020\240\005\027\275\014\043\177\364\223\355\234  
\032\121\276\335\105\101\277\221\044\264\037\214\351\137\317\173  
\041\231\237\225\237\071\072\106\034\154\371\315\173\234\220\315  
\050\251\307\251\125\273\254\142\064\142\065\023\113\024\072\125  
\203\271\206\215\222\246\306\364\007\045\124\314\026\127\022\112  
\202\170\310\024\331\027\202\046\055\135\040\037\171\256\376\324  
\160\026\026\225\203\330\065\071\377\122\135\165\034\026\305\023  
\125\317\107\314\165\145\122\112\336\360\260\247\344\012\226\013  
\373\255\302\342\045\204\262\335\344\275\176\131\154\233\360\360  
\330\347\312\362\351\227\070\176\211\276\314\373\071\027\141\077  
\162\333\072\221\330\145\001\031\035\255\120\244\127\012\174\113  
\274\234\161\163\052\105\121\031\205\314\216\375\107\247\164\225  
\035\250\321\257\116\027\261\151\046\302\252\170\127\133\305\115  
\247\345\236\005\027\224\312\262\137\240\111\030\215\064\351\046  
\154\110\036\252\150\222\005\341\202\163\132\233\334\007\133\010

```
\155\175\235\327\215\041\331\374\024\040\252\302\105\337\077\347
\000\262\121\344\302\370\005\271\171\032\214\064\363\236\133\344
\067\133\153\112\337\054\127\212\100\132\066\272\335\165\104\010
\067\102\160\014\376\334\136\041\240\243\212\300\220\234\150\332
\120\346\105\020\107\170\266\116\322\145\311\303\067\337\341\102
\143\260\127\067\105\055\173\212\234\277\005\352\145\125\063\367
\071\020\305\050\052\041\172\033\212\304\044\371\077\025\310\232
\025\040\365\125\142\226\355\155\223\120\274\344\252\170\255\331
\313\012\145\207\246\146\301\304\201\243\167\072\130\036\013\356
\203\213\235\036\322\122\244\314\035\157\260\230\155\224\061\265
\370\161\012\334\271\374\175\062\140\346\353\257\212\001
END
```

```
#
```

```
Trust for Certificate "Staat der Nederlanden Root CA - G2"
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\131\257\202\171\221\206\307\264\165\007\313\317\003\127\106\353
\004\335\267\026
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\174\245\017\370\133\232\175\155\060\256\124\132\343\102\242\212
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\062
```

```
END
```

```
CKA_SERIAL_NUMBER
```

```
MULTILINE_OCTAL
```

```
\002\004\000\230\226\214
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "CA Disig"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\021\060\017\006\003\125
\004\003\023\010\103\101\040\104\151\163\151\147
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\021\060\017\006\003\125
\004\003\023\010\103\101\040\104\151\163\151\147
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\112\061\013\060\011\006\003\125\004\006\023\002\123\113\061\023
\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163\154
\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104\151
\163\151\147\040\141\056\163\056\061\021\060\017\006\003\125\004
\003\023\010\103\101\040\104\151\163\151\147\060\036\027\015\060
\066\060\063\062\062\060\061\063\071\063\064\132\027\015\061\066
\060\063\062\062\060\061\063\071\063\064\132\060\112\061\013\060
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040
\141\056\163\056\061\021\060\017\006\003\125\004\003\023\010\103
\101\040\104\151\163\151\147\060\202\001\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060
\202\001\012\002\202\001\001\000\222\366\061\301\175\210\375\231
\001\251\330\173\362\161\165\361\061\306\363\165\146\372\121\050
\106\204\227\170\064\274\154\374\274\105\131\210\046\030\112\304
\067\037\241\112\104\275\343\161\004\365\104\027\342\077\374\110
\130\157\134\236\172\011\272\121\067\042\043\146\103\041\260\074
\144\242\370\152\025\016\077\353\121\341\124\251\335\006\231\327
\232\074\124\213\071\003\077\017\305\316\306\353\203\162\002\250
\037\161\363\055\370\165\010\333\142\114\350\372\316\371\347\152
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\037\266\153\065\202\272\342\217\026\222\175\005\014\154\106\003  
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\010\354\264\312\025\276\202\335\265\104\213\055\255\206\014\150  
\142\155\205\126\362\254\024\143\072\306\321\231\254\064\170\126  
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\365\217\372\075\154\161\243\055\312\147\353\150\173\156\063\251  
\014\202\050\250\114\152\041\100\025\040\014\046\133\203\302\251  
\026\025\300\044\202\135\053\026\255\312\143\366\164\000\260\337  
\103\304\020\140\126\147\143\105\002\003\001\000\001\243\201\377  
\060\201\374\060\017\006\003\125\035\023\001\001\377\004\005\060  
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215  
\262\111\150\235\162\010\045\271\300\047\365\120\223\126\110\106  
\161\371\217\060\016\006\003\125\035\017\001\001\377\004\004\003  
\002\001\006\060\066\006\003\125\035\021\004\057\060\055\201\023  
\143\141\157\160\145\162\141\164\157\162\100\144\151\163\151\147  
\056\163\153\206\026\150\164\164\160\072\057\057\167\167\167\056  
\144\151\163\151\147\056\163\153\057\143\141\060\146\006\003\125  
\035\037\004\137\060\135\060\055\240\053\240\051\206\047\150\164  
\164\160\072\057\057\167\167\167\056\144\151\163\151\147\056\163  
\153\057\143\141\057\143\162\154\057\143\141\137\144\151\163\151  
\147\056\143\162\154\060\054\240\052\240\050\206\046\150\164\164  
\160\072\057\057\143\141\056\144\151\163\151\147\056\163\153\057  
\143\141\057\143\162\154\057\143\141\137\144\151\163\151\147\056  
\143\162\154\060\032\006\003\125\035\040\004\023\060\021\060\017  
\006\015\053\201\036\221\223\346\012\000\000\000\001\001\001\060  
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202  
\001\001\000\135\064\164\141\114\257\073\330\377\237\155\130\066  
\034\075\013\201\015\022\053\106\020\200\375\347\074\047\320\172  
\310\251\266\176\164\060\063\243\072\212\173\164\300\171\171\102  
\223\155\377\261\051\024\202\253\041\214\057\027\371\077\046\057  
\365\131\306\357\200\006\267\232\111\051\354\316\176\161\074\152  
\020\101\300\366\323\232\262\174\132\221\234\300\254\133\310\115  
\136\367\341\123\377\103\167\374\236\113\147\154\327\363\203\321  
\240\340\177\045\337\270\230\013\232\062\070\154\060\240\363\377  
\010\025\063\367\120\112\173\076\243\076\040\251\334\057\126\200  
\012\355\101\120\260\311\364\354\262\343\046\104\000\016\157\236  
\006\274\042\226\123\160\145\304\120\012\106\153\244\057\047\201  
\022\047\023\137\020\241\166\316\212\173\067\352\303\071\141\003  
\225\230\072\347\154\210\045\010\374\171\150\015\207\175\142\370  
\264\137\373\305\330\114\275\130\274\077\103\133\324\036\001\115  
\074\143\276\043\357\214\315\132\120\270\150\124\371\012\231\063  
\021\000\341\236\302\106\167\202\365\131\006\214\041\114\207\011  
\315\345\250

END

#

Trust for Certificate "CA Disig"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST



```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE
CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\052\310\325\213\127\316\277\057\111\257\362\374\166\217\121\024
\142\220\172\101
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\077\105\226\071\342\120\207\367\273\376\230\014\074\040\230\346
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\021\060\017\006\003\125
\004\003\023\010\103\101\040\104\151\163\151\147
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Juur-SK"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL
CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Juur-SK"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\030\060\026\006\011\052\206\110\206\367\015\001\011
\001\026\011\160\153\151\100\163\153\056\145\145\061\013\060\011
\006\003\125\004\006\023\002\105\105\061\042\060\040\006\003\125
\004\012\023\031\101\123\040\123\145\162\164\151\146\151\164\163
\145\145\162\151\155\151\163\153\145\163\153\165\163\061\020\060
\016\006\003\125\004\003\023\007\112\165\165\162\055\123\113
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\030\060\026\006\011\052\206\110\206\367\015\001\011

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\001\026\011\160\153\151\100\163\153\056\145\145\061\013\060\011  
\006\003\125\004\006\023\002\105\105\061\042\060\040\006\003\125  
\004\012\023\031\101\123\040\123\145\162\164\151\146\151\164\163  
\145\145\162\151\155\151\163\153\145\163\153\165\163\061\020\060  
\016\006\003\125\004\003\023\007\112\165\165\162\055\123\113

END

CKA\_SERIAL\_NUMBER

MULTILINE\_OCTAL

\002\004\073\216\113\374

END

CKA\_VALUE MULTILINE\_OCTAL

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\005\000\060\135\061\030\060\026\006\011\052\206\110\206\367\015  
\001\011\001\026\011\160\153\151\100\163\153\056\145\145\061\013  
\060\011\006\003\125\004\006\023\002\105\105\061\042\060\040\006  
\003\125\004\012\023\031\101\123\040\123\145\162\164\151\146\151  
\164\163\145\145\162\151\155\151\163\153\145\163\153\165\163\061  
\020\060\016\006\003\125\004\003\023\007\112\165\165\162\055\123  
\113\060\036\027\015\060\061\060\070\063\060\061\064\062\063\060  
\061\132\027\015\061\066\060\070\062\066\061\064\062\063\060\061  
\132\060\135\061\030\060\026\006\011\052\206\110\206\367\015\001  
\011\001\026\011\160\153\151\100\163\153\056\145\145\061\013\060  
\011\006\003\125\004\006\023\002\105\105\061\042\060\040\006\003  
\125\004\012\023\031\101\123\040\123\145\162\164\151\146\151\164  
\163\145\145\162\151\155\151\163\153\145\163\153\165\163\061\020  
\060\016\006\003\125\004\003\023\007\112\165\165\162\055\123\113  
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001  
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001  
\000\201\161\066\076\063\007\326\343\060\215\023\176\167\062\106  
\313\317\031\262\140\061\106\227\206\364\230\106\244\302\145\105  
\317\323\100\174\343\132\042\250\020\170\063\314\210\261\323\201  
\112\366\142\027\173\137\115\012\056\320\317\213\043\356\117\002  
\116\273\353\016\312\275\030\143\350\200\034\215\341\034\215\075  
\340\377\133\137\352\144\345\227\350\077\231\177\014\012\011\063  
\000\032\123\247\041\341\070\113\326\203\033\255\257\144\302\371  
\034\172\214\146\110\115\146\037\030\012\342\076\273\037\007\145  
\223\205\271\032\260\271\304\373\015\021\366\365\326\371\033\307  
\054\053\267\030\121\376\340\173\366\250\110\257\154\073\117\057  
\357\370\321\107\036\046\127\360\121\035\063\226\377\357\131\075  
\332\115\321\025\064\307\352\077\026\110\173\221\034\200\103\017  
\075\270\005\076\321\263\225\315\330\312\017\302\103\147\333\267  
\223\340\042\202\056\276\365\150\050\203\271\301\073\151\173\040  
\332\116\234\155\341\272\315\217\172\154\260\011\042\327\213\013  
\333\034\325\132\046\133\015\300\352\345\140\320\237\376\065\337  
\077\002\003\001\000\001\243\202\001\254\060\202\001\250\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\202\001\026\006\003\125\035\040\004\202\001\015\060\202\001\011

\060\202\001\005\006\012\053\006\001\004\001\316\037\001\001\001  
\060\201\366\060\201\320\006\010\053\006\001\005\005\007\002\002  
\060\201\303\036\201\300\000\123\000\145\000\145\000\040\000\163  
\000\145\000\162\000\164\000\151\000\146\000\151\000\153\000\141  
\000\141\000\164\000\040\000\157\000\156\000\040\000\166\000\344  
\000\154\000\152\000\141\000\163\000\164\000\141\000\164\000\165  
\000\144\000\040\000\101\000\123\000\055\000\151\000\163\000\040  
\000\123\000\145\000\162\000\164\000\151\000\146\000\151\000\164  
\000\163\000\145\000\145\000\162\000\151\000\155\000\151\000\163  
\000\153\000\145\000\163\000\153\000\165\000\163\000\040\000\141  
\000\154\000\141\000\155\000\055\000\123\000\113\000\040\000\163  
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\000\145\000\153\000\163\060\041\006\010\053\006\001\005\005\007  
\002\001\026\025\150\164\164\160\072\057\057\167\167\167\056\163  
\153\056\145\145\057\143\160\163\057\060\053\006\003\125\035\037  
\004\044\060\042\060\040\240\036\240\034\206\032\150\164\164\160  
\072\057\057\167\167\167\056\163\153\056\145\145\057\152\165\165  
\162\057\143\162\154\057\060\035\006\003\125\035\016\004\026\004  
\024\004\252\172\107\243\344\211\257\032\317\012\100\247\030\077  
\157\357\351\175\276\060\037\006\003\125\035\043\004\030\060\026  
\200\024\004\252\172\107\243\344\211\257\032\317\012\100\247\030  
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\174\250\021\021\171\114\111\131\254\310\367\205\145\134\106\273  
\073\020\240\002\257\315\117\265\314\066\052\354\135\376\357\240  
\221\311\266\223\157\174\200\124\354\307\010\160\015\216\373\202  
\354\052\140\170\151\066\066\321\305\234\213\151\265\100\310\224  
\145\167\362\127\041\146\073\316\205\100\266\063\143\032\277\171  
\036\374\134\035\323\035\223\033\213\014\135\205\275\231\060\062  
\030\011\221\122\351\174\241\272\377\144\222\232\354\376\065\356  
\214\057\256\374\040\206\354\112\336\033\170\062\067\246\201\322  
\235\257\132\022\026\312\231\133\374\157\155\016\305\240\036\206  
\311\221\320\134\230\202\137\143\014\212\132\253\330\225\246\314  
\313\212\326\277\144\113\216\312\212\262\260\351\041\062\236\252  
\250\205\230\064\201\071\041\073\250\072\122\062\075\366\153\067  
\206\006\132\025\230\334\360\021\146\376\064\040\267\003\364\101  
\020\175\071\204\171\226\162\143\266\226\002\345\153\271\255\031  
\115\273\306\104\333\066\313\052\234\216

END

#

Trust for Certificate "Juur-SK"

CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST

CKA\_TOKEN CK\_BBOOL CK\_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Juur-SK"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\100\235\113\331\027\265\134\047\266\233\144\313\230\042\104\015
\315\011\270\211
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\216\135\331\370\333\012\130\267\215\046\207\154\202\065\125
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\030\060\026\006\011\052\206\110\206\367\015\001\011
\001\026\011\160\153\151\100\163\153\056\145\145\061\013\060\011
\006\003\125\004\006\023\002\105\105\061\042\060\040\006\003\125
\004\012\023\031\101\123\040\123\145\162\164\151\146\151\164\163
\145\145\162\151\155\151\163\153\145\163\153\165\163\061\020\060
\016\006\003\125\004\003\023\007\112\165\165\162\055\123\113
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\004\073\216\113\374
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Hongkong Post Root CA 1"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003

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\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040  
\122\157\157\164\040\103\101\040\061  
END  
CKA\_SERIAL\_NUMBER  
MULTILINE\_OCTAL  
\002\002\003\350  
END  
CKA\_VALUE MULTILINE\_OCTAL  
\060\202\003\060\060\202\002\030\240\003\002\001\002\002\002\003  
\350\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000  
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061  
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157  
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003  
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040  
\122\157\157\164\040\103\101\040\061\060\036\027\015\060\063\060  
\065\061\065\060\065\061\063\061\064\132\027\015\062\063\060\065  
\061\065\060\064\065\062\062\071\132\060\107\061\013\060\011\006  
\003\125\004\006\023\002\110\113\061\026\060\024\006\003\125\004  
\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164  
\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153  
\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101  
\040\061\060\202\001\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202  
\001\001\000\254\377\070\266\351\146\002\111\343\242\264\341\220  
\371\100\217\171\371\342\275\171\376\002\275\356\044\222\035\042  
\366\332\205\162\151\376\327\077\011\324\335\221\265\002\234\320  
\215\132\341\125\303\120\206\271\051\046\302\343\331\240\361\151  
\003\050\040\200\105\042\055\126\247\073\124\225\126\042\131\037  
\050\337\037\040\075\155\242\066\276\043\240\261\156\265\261\047  
\077\071\123\011\352\253\152\350\164\262\302\145\134\216\277\174  
\303\170\204\315\236\026\374\365\056\117\040\052\010\237\167\363  
\305\036\304\232\122\146\036\110\136\343\020\006\217\042\230\341  
\145\216\033\135\043\146\073\270\245\062\121\310\206\252\241\251  
\236\177\166\224\302\246\154\267\101\360\325\310\006\070\346\324  
\014\342\363\073\114\155\120\214\304\203\047\301\023\204\131\075  
\236\165\164\266\330\002\136\072\220\172\300\102\066\162\354\152  
\115\334\357\304\000\337\023\030\127\137\046\170\310\326\012\171  
\167\277\367\257\267\166\271\245\013\204\027\135\020\352\157\341  
\253\225\021\137\155\074\243\134\115\203\133\362\263\031\212\200  
\213\013\207\002\003\001\000\001\243\046\060\044\060\022\006\003  
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\306  
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003  
\202\001\001\000\016\106\325\074\256\342\207\331\136\201\213\002  
\230\101\010\214\114\274\332\333\356\047\033\202\347\152\105\354  
\026\213\117\205\240\363\262\160\275\132\226\272\312\156\155\356  
\106\213\156\347\052\056\226\263\031\063\353\264\237\250\262\067  
\356\230\250\227\266\056\266\147\047\324\246\111\375\034\223\145

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\166\236\102\057\334\042\154\232\117\362\132\025\071\261\161\327
\053\121\350\155\034\230\300\331\052\364\241\202\173\325\311\101
\242\043\001\164\070\125\213\017\271\056\147\242\040\004\067\332
\234\013\323\027\041\340\217\227\171\064\157\204\110\002\040\063
\033\346\064\104\237\221\160\364\200\136\204\103\302\051\322\154
\022\024\344\141\215\254\020\220\236\204\120\273\360\226\157\105
\237\212\363\312\154\117\372\021\072\025\025\106\303\315\037\203
\133\055\101\022\355\120\147\101\023\075\041\253\224\212\252\116
\174\301\261\373\247\326\265\047\057\227\253\156\340\035\342\321
\034\054\037\104\342\374\276\221\241\234\373\326\051\123\163\206
\237\123\330\103\016\135\326\143\202\161\035\200\164\312\366\342
\002\153\331\132
END
```

```
#
```

```
Trust for Certificate "Hongkong Post Root CA 1"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\326\332\250\040\215\011\322\025\115\044\265\057\313\064\156\262
\130\262\212\130
END
```

```
CKA_CERT_MD5_HASH
MULTILINE_OCTAL
\250\015\157\071\170\271\103\155\167\102\155\230\132\314\043\312
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "SecureSign RootCA11"
```

```
#
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE
CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\155\060\202\002\125\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061\053
\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145\162
\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032\006
\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147\156
\040\122\157\157\164\103\101\061\061\060\036\027\015\060\071\060
\064\060\070\060\064\065\066\064\067\132\027\015\062\071\060\064
\060\070\060\064\065\066\064\067\132\060\130\061\013\060\011\006
\003\125\004\006\023\002\112\120\061\053\060\051\006\003\125\004
\012\023\042\112\141\160\141\156\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\054
\040\111\156\143\056\061\034\060\032\006\003\125\004\003\023\023
\123\145\143\165\162\145\123\151\147\156\040\122\157\157\164\103
\101\061\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\375\167\252\245\034\220\005\073\313\114\233\063
\213\132\024\105\244\347\220\026\321\337\127\322\041\020\244\027
\375\337\254\326\037\247\344\333\174\367\354\337\270\003\332\224
\130\375\135\162\174\214\077\137\001\147\164\025\226\343\002\074
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\207\333\256\313\001\216\302\363\146\306\205\105\364\002\306\072  
\265\142\262\257\372\234\277\244\346\324\200\060\230\363\015\266  
\223\217\251\324\330\066\362\260\374\212\312\054\241\025\063\225  
\061\332\300\033\362\356\142\231\206\143\077\277\335\223\052\203  
\250\166\271\023\037\267\316\116\102\205\217\042\347\056\032\362  
\225\011\262\005\265\104\116\167\241\040\275\251\362\116\012\175  
\120\255\365\005\015\105\117\106\161\375\050\076\123\373\004\330  
\055\327\145\035\112\033\372\317\073\260\061\232\065\156\310\213  
\006\323\000\221\362\224\010\145\114\261\064\006\000\172\211\342  
\360\307\003\131\317\325\326\350\247\062\263\346\230\100\206\305  
\315\047\022\213\314\173\316\267\021\074\142\140\007\043\076\053  
\100\156\224\200\011\155\266\263\157\167\157\065\010\120\373\002  
\207\305\076\211\002\003\001\000\001\243\102\060\100\060\035\006  
\003\125\035\016\004\026\004\024\133\370\115\117\262\245\206\324  
\072\322\361\143\232\240\276\011\366\127\267\336\060\016\006\003  
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003  
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006  
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001  
\000\240\241\070\026\146\056\247\126\037\041\234\006\372\035\355  
\271\042\305\070\046\330\116\117\354\243\177\171\336\106\041\241  
\207\167\217\007\010\232\262\244\305\257\017\062\230\013\174\146  
\051\266\233\175\045\122\111\103\253\114\056\053\156\172\160\257  
\026\016\343\002\154\373\102\346\030\235\105\330\125\310\350\073  
\335\347\341\364\056\013\034\064\134\154\130\112\373\214\210\120  
\137\225\034\277\355\253\042\265\145\263\205\272\236\017\270\255  
\345\172\033\212\120\072\035\275\015\274\173\124\120\013\271\102  
\257\125\240\030\201\255\145\231\357\276\344\234\277\304\205\253  
\101\262\124\157\334\045\315\355\170\342\216\014\215\011\111\335  
\143\173\132\151\226\002\041\250\275\122\131\351\175\065\313\310  
\122\312\177\201\376\331\153\323\367\021\355\045\337\370\347\371  
\244\372\162\227\204\123\015\245\320\062\030\121\166\131\024\154  
\017\353\354\137\200\214\165\103\203\303\205\230\377\114\236\055  
\015\344\167\203\223\116\265\226\007\213\050\023\233\214\031\215  
\101\047\111\100\356\336\346\043\104\071\334\241\042\326\272\003  
\362  
END

#

Trust for Certificate "SecureSign RootCA11"  
CKA\_CLASS CK\_OBJECT\_CLASS CKO\_NETSCAPE\_TRUST  
CKA\_TOKEN CK\_BBOOL CK\_TRUE  
CKA\_PRIVATE CK\_BBOOL CK\_FALSE  
CKA\_MODIFIABLE CK\_BBOOL CK\_FALSE  
CKA\_LABEL UTF8 "SecureSign RootCA11"  
CKA\_CERT\_SHA1\_HASH MULTILINE\_OCTAL  
\073\304\237\110\370\363\163\240\234\036\275\370\133\261\303\145  
\307\330\021\263  
END



```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\122\164\342\222\264\200\223\362\165\344\314\327\362\352\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER
MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUST_UNKNOWN
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ACEDICOM Root"
#
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACEDICOM Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\026\060\024\006\003\125\004\003\014\015\101\103\105
\104\111\103\117\115\040\122\157\157\164\061\014\060\012\006\003
\125\004\013\014\003\120\113\111\061\017\060\015\006\003\125\004
\012\014\006\105\104\111\103\117\115\061\013\060\011\006\003\125
\004\006\023\002\105\123
END
CKA_ID
UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\026\060\024\006\003\125\004\003\014\015\101\103\105
\104\111\103\117\115\040\122\157\157\164\061\014\060\012\006\003
\125\004\013\014\003\120\113\111\061\017\060\015\006\003\125\004
\012\014\006\105\104\111\103\117\115\061\013\060\011\006\003\125
\004\006\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\141\215\307\206\073\001\202\005
END

```

CKA\_VALUE MULTILINE\_OCTAL

\060\202\005\265\060\202\003\235\240\003\002\001\002\002\010\141  
\215\307\206\073\001\202\005\060\015\006\011\052\206\110\206\367  
\015\001\001\005\005\000\060\104\061\026\060\024\006\003\125\004  
\003\014\015\101\103\105\104\111\103\117\115\040\122\157\157\164  
\061\014\060\012\006\003\125\004\013\014\003\120\113\111\061\017  
\060\015\006\003\125\004\012\014\006\105\104\111\103\117\115\061  
\013\060\011\006\003\125\004\006\023\002\105\123\060\036\027\015  
\060\070\060\064\061\070\061\066\062\064\062\062\132\027\015\062  
\070\060\064\061\063\061\066\062\064\062\062\132\060\104\061\026  
\060\024\006\003\125\004\003\014\015\101\103\105\104\111\103\117  
\115\040\122\157\157\164\061\014\060\012\006\003\125\004\013\014  
\003\120\113\111\061\017\060\015\006\003\125\004\012\014\006\105  
\104\111\103\117\115\061\013\060\011\006\003\125\004\006\023\002  
\105\123\060\202\002\042\060\015\006\011\052\206\110\206\367\015  
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202  
\002\001\000\377\222\225\341\150\006\166\264\054\310\130\110\312  
\375\200\124\051\125\143\044\377\220\145\233\020\165\173\303\152  
\333\142\002\001\362\030\206\265\174\132\070\261\344\130\271\373  
\323\330\055\237\275\062\067\277\054\025\155\276\265\364\041\322  
\023\221\331\007\255\001\005\326\363\275\167\316\137\102\201\012  
\371\152\343\203\000\250\053\056\125\023\143\201\312\107\034\173  
\134\026\127\172\033\203\140\004\072\076\145\303\315\001\336\336  
\244\326\014\272\216\336\331\004\356\027\126\042\233\217\143\375  
\115\026\013\267\173\167\214\371\045\265\321\155\231\022\056\117  
\032\270\346\352\004\222\256\075\021\271\121\102\075\207\260\061  
\205\257\171\132\234\376\347\116\136\222\117\103\374\253\072\255  
\245\022\046\146\271\342\014\327\230\316\324\130\245\225\100\012  
\267\104\235\023\164\053\302\245\353\042\025\230\020\330\213\305  
\004\237\035\217\140\345\006\033\233\317\271\171\240\075\242\043  
\077\102\077\153\372\034\003\173\060\215\316\154\300\277\346\033  
\137\277\147\270\204\031\325\025\357\173\313\220\066\061\142\311  
\274\002\253\106\137\233\376\032\150\224\064\075\220\216\255\366  
\344\035\011\177\112\210\070\077\276\147\375\064\226\365\035\274  
\060\164\313\070\356\325\154\253\324\374\364\000\267\000\133\205  
\062\026\166\063\351\330\243\231\235\005\000\252\026\346\363\201  
\175\157\175\252\206\155\255\025\164\323\304\242\161\252\364\024  
\175\347\062\270\037\274\325\361\116\275\157\027\002\071\327\016  
\225\102\072\307\000\076\351\046\143\021\352\013\321\112\377\030  
\235\262\327\173\057\072\331\226\373\350\036\222\256\023\125\310  
\331\047\366\334\110\033\260\044\301\205\343\167\235\232\244\363  
\014\021\035\015\310\264\024\356\265\202\127\011\277\040\130\177  
\057\042\043\330\160\313\171\154\311\113\362\251\052\310\374\207  
\053\327\032\120\370\047\350\057\103\343\072\275\330\127\161\375  
\316\246\122\133\371\335\115\355\345\366\157\211\355\273\223\234  
\166\041\165\360\222\114\051\367\057\234\001\056\376\120\106\236  
\144\014\024\263\007\133\305\302\163\154\361\007\134\105\044\024  
\065\256\203\361\152\115\211\172\372\263\330\055\146\360\066\207

\365\053\123\002\003\001\000\001\243\201\252\060\201\247\060\017  
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060  
\037\006\003\125\035\043\004\030\060\026\200\024\246\263\341\053  
\053\111\266\327\163\241\252\224\365\001\347\163\145\114\254\120  
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206  
\060\035\006\003\125\035\016\004\026\004\024\246\263\341\053\053  
\111\266\327\163\241\252\224\365\001\347\163\145\114\254\120\060  
\104\006\003\125\035\040\004\075\060\073\060\071\006\004\125\035  
\040\000\060\061\060\057\006\010\053\006\001\005\005\007\002\001  
\026\043\150\164\164\160\072\057\057\141\143\145\144\151\143\157  
\155\056\145\144\151\143\157\155\147\162\157\165\160\056\143\157  
\155\057\144\157\143\060\015\006\011\052\206\110\206\367\015\001  
\001\005\005\000\003\202\002\001\000\316\054\013\122\121\142\046  
\175\014\047\203\217\305\366\332\240\150\173\117\222\136\352\244  
\163\062\021\123\104\262\104\313\235\354\017\171\102\263\020\246  
\307\015\235\313\266\372\077\072\174\352\277\210\123\033\074\367  
\202\372\005\065\063\341\065\250\127\300\347\375\215\117\077\223  
\062\117\170\146\003\167\007\130\351\225\310\176\076\320\171\000  
\214\362\033\121\063\233\274\224\351\072\173\156\122\055\062\236  
\043\244\105\373\266\056\023\260\213\030\261\335\316\325\035\247  
\102\177\125\276\373\133\273\107\324\374\044\315\004\256\226\005  
\025\326\254\316\060\363\312\013\305\272\342\042\340\246\255\042  
\344\002\356\164\021\177\114\377\170\035\065\332\346\002\064\353  
\030\022\141\167\006\011\026\143\352\030\255\242\207\037\362\307  
\200\011\011\165\116\020\250\217\075\206\270\165\021\300\044\142  
\212\226\173\112\105\351\354\131\305\276\153\203\346\341\350\254  
\265\060\036\376\005\007\200\371\341\043\015\120\217\005\230\377  
\054\137\350\073\266\255\317\201\265\041\207\312\010\052\043\047  
\060\040\053\317\355\224\133\254\262\172\322\307\050\241\212\013  
\233\115\112\054\155\205\077\011\162\074\147\342\331\334\007\272  
\353\145\173\132\001\143\326\220\133\117\027\146\075\177\013\031  
\243\223\143\020\122\052\237\024\026\130\342\334\245\364\241\026  
\213\016\221\213\201\312\233\131\372\330\153\221\007\145\125\137  
\122\037\257\072\373\220\335\151\245\133\234\155\016\054\266\372  
\316\254\245\174\062\112\147\100\334\060\064\043\335\327\004\043  
\146\360\374\125\200\247\373\146\031\202\065\147\142\160\071\136  
\157\307\352\220\100\104\010\036\270\262\326\333\356\131\247\015  
\030\171\064\274\124\030\136\123\312\064\121\355\105\012\346\216  
\307\202\066\076\247\070\143\251\060\054\027\020\140\222\237\125  
\207\022\131\020\302\017\147\151\021\314\116\036\176\112\232\255  
\257\100\250\165\254\126\220\164\270\240\234\245\171\157\334\351  
\032\310\151\005\351\272\372\003\263\174\344\340\116\302\316\235  
\350\266\106\015\156\176\127\072\147\224\302\313\037\234\167\112  
\147\116\151\206\103\223\070\373\266\333\117\203\221\324\140\176  
\113\076\053\070\007\125\230\136\244

END

#

```

Trust for Certificate "ACEDICOM Root"
CKA_CLASS CK_OBJECT_CLASS CKO_NETSCAPE_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACEDICOM Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\340\264\062\056\262\366\245\150\266\124\123\204\110\030\112\120
\066\207\103\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\102\201\240\342\034\343\125\020\336\125\211\102\145\226\042\346
END
CKA_ISSUER
MULTILINE_OCTAL
\060\104\061\026\060\024\006\003\125\004\003\014\015\101\103\105
\104\111\103\117\115\040\122\157\157\164\061\014\060\012\006\003
\125\004\013\014\003\120\113\111\061\017\060\015\006\003\125\004
\012\014\006\105\104\111\103\117\115\061\013\060\011\006\003\125
\004\006\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\141\215\307\206\073\001\202\005
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NETSCAPE_TRUSTED_DELEGATOR
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

Found in path(s):

```

* /opt/cola/permits/2005422292_1715245642.1702437/0/ca-certificates-2010.63-3.el6_1.5-1.src.rpm-cosi-expand-
archive-E6GauXTs/certdata.txt

```

## 1.231 keyutils 1.4-4.el6

### 1.231.1 Available under license :

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Version 2.1, February 1999

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## 1.234 cpp 4.4.7-3.el6

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@item

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Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

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Convey the object code using peer-to-peer transmission, provided you inform other peers where the object code and Corresponding Source of the work are being offered to the general public at no charge under subsection 6d.

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@smallexample

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```
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@var{program} Copyright (C) @var{year} @var{name of author}
This program comes with ABSOLUTELY NO WARRANTY; for details type @samp{show w}.
This is free software, and you are welcome to redistribute it
under certain conditions; type @samp{show c} for details.
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```

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@c man end

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Version 2.1, February 1999

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6.

Any

executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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- a) Accompany the work with the complete corresponding

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b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

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This is an attempt to acknowledge early contributions to the garbage collector. Later contributions should instead be mentioned in README.changes.

## HISTORY -

Early versions of this collector were developed as a part of research projects supported in part by the National Science Foundation and the Defense Advance Research Projects Agency.

The garbage collector originated as part of the run-time system for the Russell programming language implementation. The first version of the garbage collector was written primarily by Al Demers. It was then refined and mostly rewritten, primarily by Hans-J. Boehm, at Cornell U., the University of Washington, Rice University (where it was first used for C and assembly code), Xerox PARC, SGI, and HP Labs. However, significant contributions have also been made by many others.

Some other contributors:

More recent contributors are mentioned in the modification history in README.changes. My apologies for any omissions.

The SPARC specific code was originally contributed by Mark Weiser.

The Encore Multimax modifications were supplied by Kevin Kenny (kenny@m.cs.uiuc.edu). The adaptation to the IBM PC/RT is largely due to Vernon Lee, on machines made available to Rice by IBM.

Much of the HP specific code and a number of good suggestions for improving the generic code are due to Walter Underwood.

Robert Brazile (brazile@diamond.bbn.com) originally supplied the ULTRIX code. Al Dosser (dosser@src.dec.com) and Regis Cridlig (Regis.Cridlig@cl.cam.ac.uk) subsequently provided updates and information on variation between ULTRIX systems. Parag Patel (parag@netcom.com) supplied the A/UX code.

Jesper Peterson(jep@mtiame.mtia.oz.au), Michel Schinz, and Martin Tauchmann (martintauchmann@bigfoot.com) supplied the Amiga port.

Thomas Funke (thf@zelator.in-berlin.de(?)) and  
Brian D. Carlstrom (bdc@clark.lcs.mit.edu) supplied the NeXT ports.  
Douglas Steel (doug@wg.icl.co.uk) provided ICL DRS6000 code.  
Bill Janssen (janssen@parc.xerox.com) supplied  
the SunOS dynamic loader  
specific code. Manuel Serrano (serrano@cornas.inria.fr) supplied linux and  
Sony News specific code. Al Dosser provided Alpha/OSF/1 code. He and  
Dave Detlefs (detlefs@src.dec.com) also provided several generic bug fixes.  
Alistair G. Crooks (agc@uts.amdahl.com) supplied the NetBSD and 386BSD ports.  
Jeffrey Hsu (hsu@soda.berkeley.edu) provided the FreeBSD port.  
Brent Benson (brent@jade.ssd.csd.harris.com) ported the collector to  
a Motorola 88K processor running CX/UX (Harris NightHawk).  
Ari Huttunen (Ari.Huttunen@hut.fi) generalized the OS/2 port to  
nonIBM development environments (a nontrivial task).  
Patrick Beard (beard@cs.ucdavis.edu) provided the initial MacOS port.  
David Chase, then at Olivetti Research, suggested several improvements.  
Scott Schwartz (schwartz@groucho.cse.psu.edu) supplied some of the  
code to save and print call stacks for leak detection on a SPARC.  
Jesse Hull and John Ellis supplied the C++ interface code.  
Zhong Shao performed much of the  
experimentation that led to the  
current typed allocation facility. (His dynamic type inference code hasn't  
made it into the released version of the collector, yet.)  
@ignore  
@c Set file name and title for man page.  
@setfilename gpl  
@settitle GNU General Public License  
@c man begin SEEALSO  
gfdl(7), fsf-funding(7).  
@c man end  
@c man begin COPYRIGHT  
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@c man end  
@end ignore  
@node Copying  
@c man begin DESCRIPTION  
@unnumbered GNU GENERAL PUBLIC LICENSE  
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@unnumberedsec TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

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@page  
@unnumberedsec Appendix: How to Apply  
These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest

possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms.

To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the ``copyright" line and a pointer to where the full notice is found.

```
@smallexample
@var{one line to give the program's name and a brief idea of what it does.}
Copyright (C) @var{year} @var{name of author}
```

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@end smallexample

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

```
@smallexample
Gnomovision version 69, Copyright (C) @var{year} @var{name of author}
Gnomovision comes with ABSOLUTELY NO WARRANTY; for details
type `show w'.
This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
@end smallexample
```

The hypothetical commands @samp{show w} and @samp{show c} should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than @samp{show w} and @samp{show c}; they could even be mouse-clicks or menu items---whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

@example

Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.

@var{signature of Ty Coon}, 1 April 1989

Ty Coon, President of Vice

@end example

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@c man end

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Version 2.1, February 1999

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In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

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derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

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the object code for the work under the terms of Section 6.

Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

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b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a

copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2)

will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

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```

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```
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```

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@cindex LGPL, Lesser General Public License  
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@display  
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```
@end display
```

```
@appendixsubsec Preamble
```

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@iftex

@appendixsubsec TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@end iftex

@ifinfo

@center GNU LESSER GENERAL PUBLIC LICENSE

@center TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

@end ifinfo

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@end enumerate

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@item

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However,

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work.

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# 1.238 python-argparse 1.2.1-2.el6

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### History

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Before (and including) argparse 1.1, the argparse package was licensed under Apache License v2.0.

After argparse 1.1, all project files from the argparse project were deleted due to license compatibility issues between Apache License 2.0 and GNU GPL v2.

The project repository then had a clean start with some files taken from Python 2.7.1, so definitely all files are under Python License now.

### A. HISTORY OF THE SOFTWARE

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Python was created in the early 1990s by Guido van Rossum at Stichting Mathematisch Centrum (CWI, see <http://www.cwi.nl>) in the Netherlands as a successor of a language called ABC. Guido remains Python's principal author, although it includes many contributions from others.

In 1995, Guido continued his work on Python at the Corporation for National Research Initiatives (CNRI, see <http://www.cnri.reston.va.us>) in Reston, Virginia where he released several versions of the software.

In May 2000, Guido and the Python core development team moved to BeOpen.com to form the BeOpen PythonLabs team. In October of the same year, the PythonLabs team moved to Digital Creations (now Zope Corporation, see <http://www.zope.com>). In 2001, the Python Software Foundation (PSF, see <http://www.python.org/psf/>) was formed, a non-profit organization created specifically to own Python-related Intellectual Property. Zope Corporation is a sponsoring member of the PSF.

All Python releases are Open Source (see <http://www.opensource.org> for

the Open Source Definition). Historically, most, but not all, Python releases have also been GPL-compatible; the table below summarizes the various releases.

Release	Derived from	Year	Owner	GPL-compatible? (1)
0.9.0 thru 1.2		1991-1995	CWI	yes
1.3 thru 1.5.2	1.2	1995-1999	CNRI	yes
1.6	1.5.2	2000	CNRI	no
2.0	1.6	2000	BeOpen.com	no
1.6.1	1.6	2001	CNRI	yes (2)
2.1	2.0+1.6.1	2001	PSF	no
2.0.1	2.0+1.6.1	2001	PSF	yes
2.1.1	2.1+2.0.1	2001	PSF	yes
2.2	2.1.1	2001	PSF	yes
2.1.2	2.1.1	2002	PSF	yes
2.1.3				
2.1.2	2002	PSF	yes	
2.2.1	2.2	2002	PSF	yes
2.2.2	2.2.1	2002	PSF	yes
2.2.3	2.2.2	2003	PSF	yes
2.3	2.2.2	2002-2003	PSF	yes
2.3.1	2.3	2002-2003	PSF	yes
2.3.2	2.3.1	2002-2003	PSF	yes
2.3.3	2.3.2	2002-2003	PSF	yes
2.3.4	2.3.3	2004	PSF	yes
2.3.5	2.3.4	2005	PSF	yes
2.4	2.3	2004	PSF	yes
2.4.1	2.4	2005	PSF	yes
2.4.2	2.4.1	2005	PSF	yes
2.4.3	2.4.2	2006	PSF	yes
2.4.4	2.4.3	2006	PSF	yes
2.5	2.4	2006	PSF	yes
2.5.1	2.5	2007	PSF	yes
2.5.2	2.5.1	2008	PSF	yes
2.5.3	2.5.2	2008	PSF	yes
2.6	2.5	2008	PSF	yes
2.6.1	2.6	2008	PSF	yes
2.6.2	2.6.1	2009	PSF	yes
2.6.3	2.6.2	2009	PSF	yes
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2.7	2.6	2010	PSF	yes

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(2) According to Richard Stallman, 1.6.1 is not GPL-compatible, because its license has a choice of law clause. According to CNRI, however, Stallman's lawyer has told CNRI's lawyer that 1.6.1 is "not incompatible" with the GPL.

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## 1.239 linux-kernel 4.4.115.0.1

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ConferenceTV card

+ many more (please mail me if you are missing in this list and would like to be mentioned)

/\* nicstar.c v0.22 Jawaid Bazyar (bazyar@hypermall.com)

\* nicstar.c, M. Welsh (matt.welsh@cl.cam.ac.uk)

\*

\* Hacked October, 1997 by Jawaid Bazyar, Interlink Advertising Services Inc.

\* <http://www.hypermall.com/>

\* 10/1/97 - commented out CFG\_PHYIE bit - we don't care when the PHY

\* interrupts us (except possibly for removal/insertion of the cable?)



\* 10/4/97 - began heavy inline documentation of the code. Corrected typos  
 \* and spelling mistakes.

\* 10/5/97 - added code to handle PHY interrupts, disable PHY on  
 \* loss of link, and correctly re-enable PHY when link is  
 \* re-established. (put back CFG\_PHYIE)

\*

\* Modified to work with the IDT7721 nicstar -- AAL5 (tested) only.

\*

\* R. D. Rechenmacher <ron@fnal.gov>, Aug. 6, 1997

\*

\* Linux driver for the IDT77201 NICStAR PCI ATM controller.  
 \* PHY component is expected to be 155 Mbps S/UNI-Lite or IDT 77155;  
 \* see init\_nicstar() for PHY initialization to change this. This driver  
 \* expects the Linux ATM stack to support scatter-gather  
 lists  
 \* (skb->atm.iovcnt != 0) for Rx skb's passed to vcc->push.

\*

\* Implementing minimal-copy of received data:  
 \* IDT always receives data into a small buffer, then large buffers  
 \* as needed. This means that data must always be copied to create  
 \* the linear buffer needed by most non-ATM protocol stacks (e.g. IP)  
 \* Fix is simple: make large buffers large enough to hold entire  
 \* SDU, and leave <small\_buffer\_data> bytes empty at the start. Then  
 \* copy small buffer contents to head of large buffer.  
 \* Trick is to avoid fragmenting Linux, due to need for a lot of large  
 \* buffers. This is done by 2 things:  
 \* 1) skb->destructor / skb->atm.recycle\_buffer  
 \* combined, allow nicstar\_free\_rx\_skb to be called to  
 \* recycle large data buffers  
 \* 2) skb\_clone of received buffers  
 \* See nicstar\_free\_rx\_skb and linearize\_buffer for implementation  
 \* details.

\*

\*

\*

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- \*
- \* M. Welsh, 6 July 1996
- \*
- \*
- \*/

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(in case you are wondering where CyberLogin is, EON changed its login  
procedure and CyberLogin is no longer used.)

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for merging the nxt2002 and nxt2004 modules into a  
single nxt200x frontend driver.

(If you think you should be in this list, but you are not, drop

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"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the

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However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.

Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding

machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.)

b) Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

e) Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

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It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

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## TERMS AND CONDITIONS

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# 1.242 libtasn 3.8

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```
/* lib/font/fontfile/gunzip.c
   written by Mark Eichin <eichin@kitten.gen.ma.us> September 1996.
   intended for inclusion in X11 public releases. */
```

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## 1.245 mesa 10.6.5

### 1.245.1 Available under license :

Subject: RE: Question about Mesa MLAA license  
From: Jorge Jimenez <iryoku@gmail.com>  
Date: 01/08/2013 12:50 PM  
To: Tom Callaway <tcallawa@redhat.com>  
CC: "jorge@iryoku.com" <jorge@iryoku.com>

Yes to both questions.

Thanks,  
Jorge

From: Tom Callaway <tcallawa@redhat.com>  
Sent: January 8, 2013 6:49 PM  
To: Jorge Jimenez <iryoku@gmail.com>  
CC: jorge@iryoku.com  
Subject: Re: Question about Mesa MLAA license

On 01/08/2013 12:39 PM, Jorge Jimenez wrote:

> Hi Tom,  
>  
> What we meant with that is that we made an exception for clause 2.  
> Instead of clause 2, in the case of the Mesa project, you have to name  
> the technique Jimenez's MLAA in the config options of Mesa. We did that  
> just to allow them to solve license issues. This exception should be for  
> the Mesa project, and any project using Mesa, like Fedora.  
>  
> We want to widespread usage of our MLAA, so we want to avoid any kind of  
> license complications. Hope current one is good for Fedora, if not  
> please tell, and we'll see what  
> we can do!

Okay, a few more questions:

\* If Fedora decides to simply reproduce the quoted statement:

"Uses Jimenez's MLAA. Copyright (C) 2010 by Jorge Jimenez, Belen Masia, Jose I. Echevarria, Fernando Navarro and Diego Gutierrez."

Specifically, if this is done as part of documentation included with Mesa, is that sufficient to meet clause 2 even if the Mesa config option is not set as described in your exception?

\* Currently, the Mesa config option for MLAA says: "Morphological anti-aliasing based on Jimenez\' MLAA. 0 to disable, 8 for default quality". Is this in compliance with your exception?

Thanks again,

~tom

==

Fedora Project

Subject: RE: Question about Mesa MLAA license  
From: Jorge Jimenez <iryoku@gmail.com>  
Date: 01/08/2013 12:39 PM  
To: "jorge@iryoku.com" <jorge@iryoku.com>, Tom Callaway <tcallawa@redhat.com>

Hi Tom,

What we meant with that is that we made an exception for clause 2. Instead of clause 2, in the case of the Mesa project, you have to name the technique

Jimenez's MLAA in the config options of Mesa. We did that just to allow them to solve license issues. This exception should be for the Mesa project, and any project using Mesa, like Fedora.

We want to widespread usage of our MLAA, so we want to avoid any kind of license complications. Hope current one is good for Fedora, if not please tell, and we'll see what we can do!

Cheers,  
Jorge

From: Tom Callaway <tcallawa@redhat.com>  
Sent: January 8, 2013 6:30 PM  
To: jorge@iryoku.com  
Subject: Question about Mesa MLAA license

Jorge,

Thanks for all of your fantastic graphics work! I have been auditing Fedora (a popular distribution of Linux) for license compliance and I



came across your MLAA code in Mesa.

The license says:

- \* 2. Redistributions in binary form must reproduce the following statement:
- \*
- \* "Uses Jimenez's MLAA. Copyright (C) 2010 by Jorge Jimenez, Belen Masia,
- \* Jose I. Echevarria, Fernando Navarro and Diego Gutierrez."
- \*
- \* Only for use in the Mesa project, this point 2 is filled by naming the
- \* technique Jimenez's MLAA in the Mesa config options.

That wording is unclear. When you say "Only for use in the Mesa project...", it seems like you could either be saying:

- This code may only be used as part of Mesa.

OR

- In Mesa, you can comply with clause 2 by simply selecting "Jimenez's MLAA" in the Mesa config options.

\*\*\*\*\*

If the first item is true, then we may have to remove the MLAA code from Fedora's copy of Mesa. However, looking at the license on your SMAA code, I do not believe it to be the case. Please let me know either way!

Thanks in advance,

Tom Callaway  
Fedora Legal

==

Fedora Project

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# 1.246 nspr 4.11.0

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# 1.248 polkit 0.112

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```
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# 1.252 libnss-nisplus 2.31

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a

derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the

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6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

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a) Accompany

the work with the complete corresponding

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b) Use a suitable shared library mechanism for linking with the

Library. A suitable mechanism is one that (1) uses at run time a

copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

c) Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.

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## 1.253 libnss-nis 2.17

### 1.253.1 Available under license :

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Version 2, June 1991

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However, unrestricted linking of non-free programs would deprive the users of those programs of all benefit from the free status of the libraries themselves. This Library General Public License is intended to permit developers of non-free programs to use free libraries, while preserving your freedom as a user of such programs to change the free libraries that are incorporated in them. (We have not seen how to achieve this as regards changes in header files, but we have achieved it as regards changes in the actual functions of the Library.) The hope is that this will lead to faster development of free libraries.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, while the latter only works together with the library.

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A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs

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b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the

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file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

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# 1.254 network-manager 1.0.6-27.el7

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# 1.256 libasynchs 0.8

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## 1.257 libev 4.15

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